UNIVERSAL JOB PROFILE

Junior Programmer

A junior programmer assists in the development of interactive applications and experiences using real-time graphics technology. They work collaboratively with senior programmers, artists, quality assurance (QA) team members, and designers to implement game mechanics, debug and optimize code, and contribute to the overall development process. Their responsibilities may include scripting interactive behaviors, solving technical issues, and continuously learning and adapting to the evolving landscape of real-time 3D (RT3D) technologies.

Top three responsibilities

Coding and development
Write, modify, and maintain code for RT3D applications based on specifications and best practices with guidance from senior programmers.

Bug fixing and troubleshooting
Help identify and fix bugs or issues in the codebase.

Documentation and code maintenance
Contribute to documenting code and maintain clear and organized documentation for the project.

Top three skills

Coding proficiency in at least one scripting language
Demonstrate the ability to use various APIs, use consistent code styles throughout your work, and follow general coding best practices.

Ability to interpret existing code
Review and understand code bases and expand on existing code while adhering to project standards.

Debug and troubleshoot code
Diagnose and fix code that doesn't compile or isn't performing as expected.

Career Stage

Entry level

0-2 years of professional experience

0-2 years

5+ years

Pay Range

Midpoint

$90,000

$67,500

$112,500

Note: These ranges are built using the Radford compensation database. They are based on the 50th percentile of data for all industries, company sizes, sectors and US locations. The minimum of the range is 25% lower than the 50th percentile (midpoint), and the maximum of the range is 25% of the maximum. These ranges are not reflective of Unity's compensation ranges for the same or similar roles, but are intended to be broad ranges to encompass all US geographies and company types. This information is not to be shared with any person as means to inform them about Unity's compensation ranges or philosophy.

Alternative Titles

A junior programmer may also have the following alternative titles:

- Junior interactive developer
- Junior software developer
- Junior software engineer

Other Terms

Roles are often assigned an extra level of specificity by including the main tool or task being used as part of the title. Examples of this include:

- Junior Unity programmer
- Junior programmer - Unreal Engine
- Junior programmer - front end

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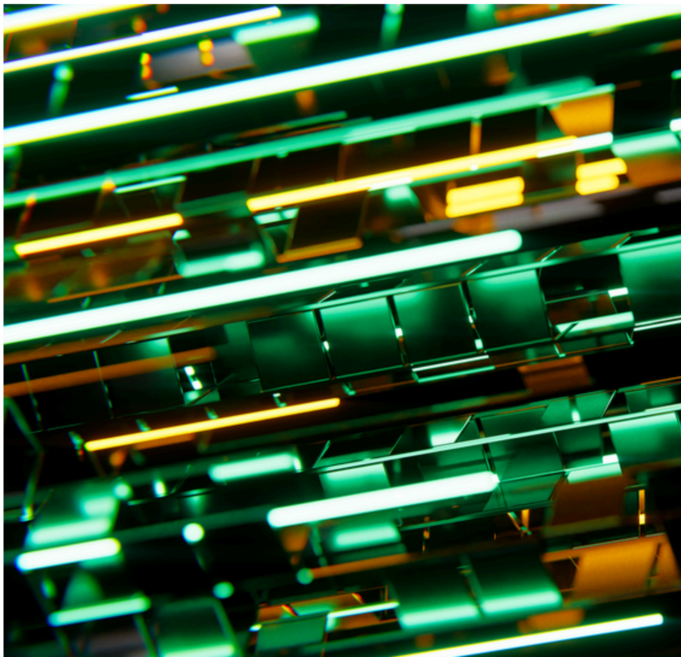

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Job details

Key traits and qualities of a junior programmer

As an early career professional, a junior programmer wears two hats — contributor to a project and eager learner. Employers look for candidates who can smoothly blend into their teams, as they value teamwork over a solo mindset. An ideal junior programmer is not just ready to assist on a project, but also displays genuine enthusiasm to learn from more experienced team members.

Clear communication and other soft skills are often more valued than deep technical skills. The ability to express problem insights, suggest solutions, and explain the reasoning behind them is a prized quality. A willingness to listen to others and understand different perspectives fosters a collaborative atmosphere. Being approachable and skilled in navigating team dynamics is crucial for a junior programmer's success. Balancing technical skills and teamwork, the ideal junior programmer isn't just good at coding, but is also a great team player who communicates well.

Responsibilites

When junior programmers are first getting started, their tasks will likely remain closely monitored by senior programmers and team leads. The parts of a project they will contribute to will remain small, but grow as they increase their skills and gain a deeper understanding of the project. Below are a sample of the most common responsibilities that junior programmers are assigned, but specific responsibilities will vary from company to company.

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Core Responsibilities

Most junior programmers will be assigned these responsibilities. All junior programmers should be able to perform the following tasks:

Coding and development: Junior programmers are responsible for writing, modifying, and maintaining code for real-time 3D applications. They implement mechanics, user interfaces, or other interactive features based on design specifications and established programming best practices with guidance from senior programmers.

Testing and quality assurance: Junior programmers may be involved in testing the functionality and performance of the developed applications. They conduct unit testing, assist in writing automated testing scripts, assist in user testing, and contribute to ensuring the quality and stability of the software.

Bug fixing and troubleshooting: Junior programmers help identify and fix bugs or issues in the codebase. They work closely with the development team to investigate and resolve problems, whether they're related to functionality, performance, or compatibility with different platforms or devices.

Collaboration and communication: Junior programmers collaborate with other team members, such as senior programmers, artists, QA testers, and designers, to understand project requirements, estimate task duration, and contribute to the development process. Effective communication, both written and verbal, is essential to coordinate tasks, share progress updates, reach milestones, and seek assistance when needed.

Documentation and code maintenance: Junior programmers contribute to documenting their code and maintaining clear and organized documentation for the project. This helps improve code readability, facilitates collaboration, and assists in knowledge transfer within the team.

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Secondary Responsibilities

These tasks are slightly more specialized, but it will greatly benefit junior programmers to be familiar with these tasks should they be assigned.

UI/UX consistency: Junior programmers may contribute to the establishment and maintenance of UI/UX standards across products and experiences within the company's portfolio. To do so, they collaborate closely with design and development teams to ensure consistent and user-friendly interfaces across projects.

Back end coding and development: With guidance from senior programmers, junior programmers may design, modify, and maintain the underlying systems that drive the application's functionality. This may include optimizing database queries, implementing APIs, or ensuring seamless data flow.

API development: Junior programmers may be responsible for aiding in the creation of and maintaining APIs that act as bridges between the front end and back end of an application. These APIs facilitate communication and data exchange, enabling various components to work together, from user interactions on the interface to data processing happening behind the scenes.

Personal Responsibilities

Beyond day-to-day responsibilities, junior programmers should remain focused on continuing to build their skills and knowledge base so that they can eventually progress to more senior level roles.

Ongoing learning and development: In order to grow in their chosen field, junior programmers should maintain a skills growth mindset, even once employed. They should actively invest time in learning and implementing new programming languages, frameworks, and stay up to date with the latest advances in RT3D.

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Required skills

The specific tasks assigned to a junior programmer can vary significantly depending on the project they're working on. A junior programmer in games may develop aspects of a combat system, while a junior programmer working in automotive might contribute to a driving simulation. The skills listed below are generalized to be universally relevant no matter the project. These skills ensure that a junior programmer is well rounded and can adapt themselves to any job.

Script comprehension and integration:

□ Interpret existing code within a code base.

□ Improve simple code using the features of an IDE.

□ Write code that integrates into an existing code base.

□ Execute coding standards as established by senior programmers.

Effective scripting practices:

□ Write code that utilizes existing APIs.

□ Maintain a code style that is efficient and easy to read.

□ Use coding best practices to maximize code efficiency.

□ Refactor and improve code as needed to improve readability and efficiency.

Handling data and persistence:

□ Write script functionality for data persistence within a runtime session.

□ Select the appropriate data structures based on situational needs.

□ Select the appropriate data types based on the type of data that needs to be stored.

Debugging and troubleshooting:

- □ Implement unit tests to ensure that code functions as intended.
- □ Diagnose and fix code that compiles but fails to perform as expected.
- □ Troubleshoot runtime exceptions.
- □ Debug applications on multiple platforms.
- □ Profile and debug performance issues.

Effective version control use:

- □ Have an awareness of fundamental version control concepts.
- □ Create repositories using common version control systems to manage project iterations.
- □ Use best practices like branching, check-outs, and clear commit comments for organized project management.

Team collaboration:

- □ Receive and provide feedback in a positive and constructive manner.
- □ Participate in listening, constructive feedback cycles, code and peer review.
- □ Have an awareness of popular project management methodologies (for example, agile, waterfall).
- □ Have familiarity with key performance indicators (KPIs) and objectives and key results (OKRs) to comprehend their significance within the project context.
- □ Use task tracking tools to keep a record of current tasks within a project.
- □ Create and maintain documentation for code, processes, and other project-related work.

Personal development:

- □ Develop effective time management to balance work, personal life, and relaxation for a well rounded lifestyle.
- □ Develop stress-management techniques such as mindfulness practices to offset the demanding nature of real-time 3D (RT3D).
- □ Build a strong professional network within the RT3D industry through forums, conferences, and meetups to gain insight and support from peers and mentors.
- □ Develop approaches to critical thinking by thoughtfully evaluating situations and systematically reviewing information to make informed decisions.

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Tools used

In the RT3D industry, junior programmers make use of a large variety of tools that are specially designed for specific tasks. The following list highlights important tool categories that are often required for day-to-day work. Junior programmers should be proficient in at least one tool from each category. Demonstrating an understanding of how and why a category of tools is used is more important than knowing the specific programs a company uses.

Integrated development environments (IDEs): IDEs such as **Xcode**, **Android Studio**, **Visual Studio**, or **JetBrains Ride**r provide a comprehensive coding environment with features like code editing, debugging, version control integration, and project management.

Real-time 3D engines: Real-time 3D engines like **Unity** or **Unreal Engine** are widely used in the industry. These engines provide a suite of tools for designing, building, and deploying interactive applications, including game development, simulations, and virtual experiences.

Programming languages: Languages suited for real-time 3D development include **C#**, **C++**, **Lua**, and **Python**, among many others. The choice of language will depend on the specific engine, project requirements, or company preferences.

Version control systems: Version control systems like **Git** or **SVN** are crucial for collaboration and code management. These tools are used to track changes, manage code branches, and collaborate with other team members.

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Debugging and profiling tools: Debugging and profiling tools, such as **Visual Studio Debugger** or **Unity Profiler**, help in identifying and troubleshooting issues in code. These tools assist in understanding runtime behavior, performance bottlenecks, and memory management.

Project management and communication tools: Project management tools like **Jira**, **Trello**, or **Asana** are used to track tasks, collaborate with team members, and communicate project updates. Communication tools like **Slack** or **Microsoft Teams** facilitate real-time communication and collaboration within the development team.

Artificial intelligence (AI) tools: While still very new, AI tools such as **ChatGPT**, **TensorFlow**, or **PyTorch** are already being integrated into production workflows to assist with a wide array of programming tasks. These tools are able to generate code snippets, provide code completion suggestions, and offer solutions to coding issues.

Cloud services: For junior programmers focusing on back-end development, platforms such as **AWS** (Amazon Web Services), **Azure**, **Unity DevOps**, and others offer scalable infrastructure and services for hosting applications, databases, and server-side components.

Collaborative roles

Junior programmers typically work closely with various job roles on a day-to-day basis, collaborating as part of a larger development team. The following list includes common job roles that junior programmers may work with:

Senior programmers/developers: Junior programmers work closely with senior programmers or developers who provide guidance, mentorship, and oversight. They collaborate on coding tasks, share knowledge, and seek guidance on more complex programming challenges.

Artists and designers: In real-time 3D industries, collaboration with artists and designers is crucial. Junior programmers work closely with these professionals to implement their visual assets, integrate animations, optimize performance, and ensure that the interactive elements align with the artistic vision and design specifications.

Technical artists: Technical artists bridge the gap between art and programming. They help implement and optimize art assets, create shaders, set up visual effects, and ensure the technical feasibility of the artistic vision. Junior programmers may collaborate with technical artists to incorporate their work into the overall development process.

Producers and project managers: Producers and project managers oversee the development process and ensure that projects are completed on time and within budget. Junior programmers interact with them to provide progress updates, receive task assignments, and discuss project requirements or changes.

Quality assurance testers: Junior programmers work closely with QA testers to identify and fix bugs, ensure functionality, and optimize performance. They collaborate to reproduce and understand reported issues and work together to resolve them effectively.

Sound engineers: For projects involving audio, junior programmers collaborate with sound engineers to integrate sound effects, music, or voice-over assets into the application. They work together to synchronize audio cues with visual elements and create an immersive auditory experience.

Data Scientists/Analysts: Depending on the company and project, junior programmers may work with data scientists or analysts to implement tracking mechanisms, collect and analyze data, and integrate data-driven features or systems into the application.

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Job progression

One of the best things about pursuing a junior programmer role is the large variety of job opportunities that become available as more experience is gained. While many programmers begin to specialize in specific areas of production as they become more experienced, this isn't a requirement for growth in a professional career. There are many opportunities not only for specialization, but also for broader production work, such as technical art or project management. The following list is a small selection of potential paths junior programmers may take as they grow their career:

Back-end programmer: Back-end programmers manage server-side infrastructure for RT3D applications that include multiplayer, collaborative, or otherwise dynamic experiences. They specialize in designing scalable and secure systems, managing data, and implementing network communication protocols. A junior programmer could transition into a back-end role by learning about server-side programming and architecture, database design and maintenance, and API development.

Front-end programmer: Front-end programmers play a pivotal role in shaping the user interface and interactive elements of real-time 3D applications. They focus on crafting visually engaging and responsive user experiences, incorporating assets, animations, and UI. Junior programmers can transition into front-end roles by becoming familiar with creating and/or implementing 3D assets, understanding UI design principles, and becoming proficient at creating user focused interactive experiences.

Mid-level programmer/developer: With increased experience and proficiency, junior programmers can progress to mid-level programmer roles. In these positions, they take on more complex programming tasks, have greater autonomy, and may mentor junior programmers. Junior programmers can transition into this role by contributing to larger parts of a project and by demonstrating overall growth in programming skills.

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Technical artist: Technical artists bridge the gap between art and programming. They specialize in creating efficient pipelines, developing shaders, optimizing visual assets, and implementing advanced graphics techniques. Junior programmers with an artistic inclination can transition into technical artist roles by honing their skills in 3D modeling, animation, or visual effects (VFX) production, and by creating tools extensions for RT3D software.

Interaction/gameplay programmer: Interaction/gameplay programmers focus on designing and implementing interactive systems and gameplay mechanics within RT3D applications. Junior programmers with a strong interest in interactive experiences or game mechanics can move into these roles by actively participating in game development projects and studying algorithms and techniques related to interaction design.

Tools/engine programmer: While many companies work with pre-built engines and tools, some still prefer to create their own in-house solutions. Tools/engine programmers create these systems according to team needs and project requirements. Junior programmers can prepare for this role by actively engaging with and expanding on existing tools and engines, creating their own, contributing to tool improvement initiatives, or gaining proficiency in software architecture.

Technical project manager/producer: Technical project managers or producers oversee the planning, execution, and delivery of technical projects, and manage resources, timelines, and budgets. Junior programmers who become interested in project management after gaining production experience can move into these roles by collaborating with other project managers, acquiring proficiency in project management methodologies, and cultivating strong communication skills.

Systems engineer: Systems engineers are responsible for scoping, developing, and supporting core gameplay systems. They often work in the low-level side of the engine to create systems for game features, developer tooling, and optimization. This work may touch a variety of different systems including streaming, SDKs, threading, memory management, and platform and middleware abstractions. Junior programmers interested in this role should participate in engine development projects and study system architecture.

Graphics engineer: Graphics engineers create, maintain, and optimize rendering systems for video games, and they require expertise in advanced mathematics, real-time computer graphics, threading, memory management, and low-level programming. Junior programmers interested in this role can prepare by building a strong foundation in mathematics, including linear algebra, trigonometry, and calculus, exploring real-time graphics concepts, and gaining proficiency in low-level programming languages, such as C++.

Industry list

A junior programmer's skills put them in the unique position of being in demand across a wide variety of industries that use RT3D tools. This offers more opportunities when a junior programmer is first starting out, and excitingly, the skills that they gain in one sector transfer to others without issue. Below is a list of common industries that hire junior programmers:

- Aerospace and defense
- Animation, media, film, and entertainment
- Architecture, engineering, and construction (AEC)
- Automotive
- Education and training
- Energy and natural resources
- Games
- Healthcare
- Manufacturing and engineering
- Marketing and advertising
- Retail and ecommerce

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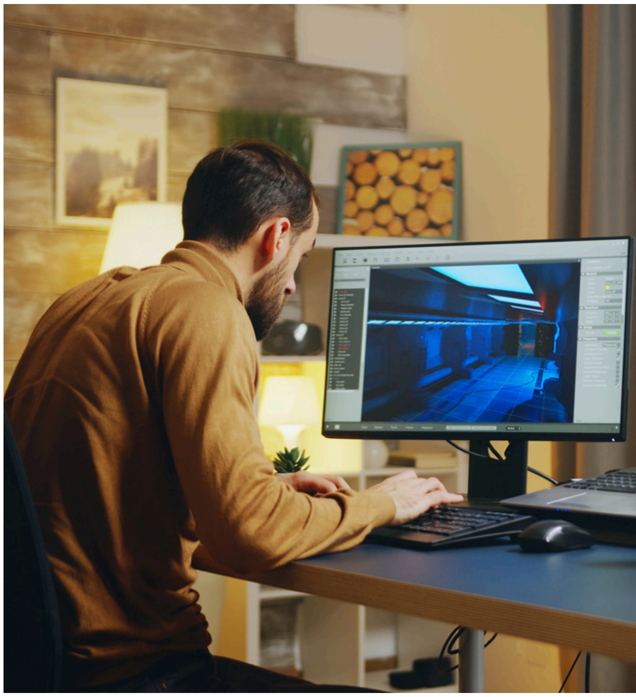
The application process

Prepare for the job hunt

After honing your skills to be a proficient junior programmer, it's time to head down the next important pathway - finding your perfect job. Part two of this guide serves as your roadmap, steering you through the challenging process of job applications and interviews.

Standing out in this competitive field is not only about having the necessary coding skills, but also about displaying your talents to potential employers. This section will delve into composing impactful resumes and cover letters, assembling an engaging portfolio reflective of your unique coding abilities, and optimizing your LinkedIn profile to attract prospective employers. Additionally, it shares vital insights on how to prepare for interviews and present yourself positively.

This part of the guide also offers meaningful strategies and tips to fine-tune your job search, helping you zero in on the roles that resonate with your career aspirations. A major point of focus here is the development of resilience in the face of job rejections, while guiding you on how to utilize these experiences to refine your strategy.



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Resume

A resume is a vital tool for anyone seeking employment in the RT3D industry. Even when you're starting out in the industry and have little experience to showcase, your resume is an opportunity to highlight your skills and knowledge, and also serves as a way to point employers to samples of your work. You will often be asked to provide a resume in addition to filling out information about yourself in an application. Having a resume already prepared will help save you time during your job search.

When preparing a resume, be sure to include the following information:

- □ **Name and contact information:** This should be the full name you go by in a professional setting. If you are concerned about your contact information being publicly available, it's okay to minimize the information you include. However, you must have at least one contact method, such as an email, through which an employer can contact you to arrange an interview.
- □ **Desired title:** This should align with the job you're applying for (in other words, Junior Programmer).
- □ **Skills:** List your technical skills, including specific scripting languages and software packages, in bullet format.
- □ **Projects:** Any projects you have worked on, and your specific role in them if on a team. Projects that you worked on while in a training/academic program are fine to list here. If you have any relevant work that has been published, be sure to include it.
- □ **Links to your work:** Relevant links to your LinkedIn, portfolio, github, or other work samples
- □ **Education:** School or other forms of training, if applicable.
- □ **Certifications/certificates:** Anything you earned during the course of your learning for this role that is formally recognized, if applicable.
- □ **Internships/apprenticeships:** Any formalized training experience you participated in, if applicable. Be sure to include information on the company that managed your internship/apprenticeship.
- □ **File name:** Ensure that the file name of your resume is simple, descriptive, and most importantly contains your full first and last name.

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Automated Tracking Systems (ATS)

An important aspect of resume preparation to keep in mind is that today most employers make use of applicant tracking systems (ATS), which are a type of software that help companies manage the recruitment process. An ATS automates the process of sorting and filtering resumes to help identify likely candidates for a human reviewer. While it might seem frustrating that a computer reviews your resume before a person does, this enables recruiters and hiring managers to spend more time on resumes and potential job candidates than they would be able to otherwise. Because the first step of the application process is managed by computers, it's extremely important that you format your resume so that it's optimized for an ATS.

When preparing your resume for an ATS, be sure to review:

□ **Keywords:** Include relevant keywords in your resume that match the job listing. ATS often scans for specific words or phrases to determine the relevance of an application. For example, if the job listing is looking for experience with Unreal Engine, and you know both Unity and Unreal, do not list "various game engines", but explicitly list the engines by name.

□ **Formatting:** Use a clean and simple format. Avoid complex layouts, images, or graphics that may confuse the ATS. It's a general best practice to avoid including any images, especially a photo of yourself in your resume.

□ **File format:** Submit your application in a format that the ATS can easily read, such as plain text or a common document format like .docx or .pdf. It's a good idea to have your resume ready in multiple formats ahead of time. Most word processing programs allow you to export to multiple formats. When uploading your resume to an application page, take special care to upload using the recommended format.

□ **Section headings:** Clearly label sections of your resume (for example, "Work Experience", "Education", "Skills", etc.) to help the ATS categorize information accurately. Don't use specialized terms or uncommon acronyms in headers.

□ **Bullet points:** Present information using bullet points for clarity. ATS systems often prefer straightforward, concise content.

□ **Special characters:** Minimize the use of special characters, symbols, or unusual fonts, as these may not be interpreted correctly by the ATS. Default fonts found in most word processing programs are generally a safe choice.

Cover letters

While often considered one of the most time consuming aspects of applying for a job, cover letters are the first chance you have to introduce yourself to a company using your own words, and therefore represents an important opportunity. While an ATS may scan your cover letter for keywords much in the same way it does your resume, it's far more likely that an actual person will be reading your cover letter. It's common for people just entering the industry to create generic cover letters or even skip them entirely, so taking the time to craft a meaningful cover letter will help the reader remember you, and this may lead to an increased chance of getting an interview. Take care to make a positive and meaningful first impression.

While you may be able to reuse some content between cover letters, such as a personal introduction or an overview of your skills, most of a cover letter should be written specifically for the company you're sending it to. A cover letter should express why you would be a good candidate for the role, what specifically drew you to the job, and any interesting anecdotes or additional information that might pique the reader's interest.

A cover letter should be one page or less, and should contain the following information:

- A brief introduction of yourself
- What interests you about the company
- What made you want to apply for the role
- What makes you uniquely qualified for this specific job
- Thank the reader for their time

Portfolio

A professional portfolio is one of the most important assets of all creative professionals in RT3D. It serves as a single point of reference for everything that you are currently capable of doing in your chosen area of focus. Portfolios are of such importance that a dedicated section covering recommendations can be found later in this Universal Job Profile. This section highlights practical details of what your portfolio should include for the application process.

When preparing your portfolio to be reviewed with your application, be sure that includes the following:

□ **Your name and contact information:** This should be included in case the hiring manager reviewing your portfolio loses track of your resume. Ensure you're easy to contact from the portfolio itself. Consider including a link to your LinkedIn profile or to your resume.

□ **Project descriptions:** Provide clear and concise descriptions for each project, explaining the goals, features, and technologies used. Highlight any unique challenges or innovative solutions you implemented. This helps prospective employers understand the scope and complexity of your work. Be sure to note if you developed a project as part of a team, and what role you performed.

□ **Published projects:** Highlight projects that have been fully published and specify the platform they are available on. Published works underscore your ability to work across the entire production pipeline, which shows a deep understanding beyond prototype creation. Published projects are significant achievements and are of particular interest to employers.

□ **Visual assets:** Incorporate visual assets such as screenshots, videos, or interactive demos to showcase the visual quality and functionality of your projects. Visual elements provide a tangible representation of your work and make it easier for employers to assess your skills.

□ **Ease of navigation:** When putting your portfolio together, consider the type of content that you'll be showcasing and select a platform that will best serve that kind of content. If you choose to create your own custom website to host your portfolio, ensure that viewers can easily find the full contents of your portfolio with a minimum number of clicks.

Portfolio recommendations

As a junior programmer, always include code samples in your portfolio. Employers hiring for programmer roles want to assess the quality of your work, and this can't be achieved if you only show a final project. Code samples not only reveal your technical proficiency, but also provide valuable insights into your thought process and problem-solving approach.

A few examples of portfolio pieces for a junior programmer may include the following:

A simple complete game: If your career goal is in game development, showing your ability to program all aspects of a game is a valuable portfolio piece. Focus on a smaller-scale project, such as a simple arcade game, a card game, or an idle game. The key is to demonstrate your proficiency in creating functionality for essential game components.

A full system: For those interested in showcasing their capability to create functionality integrated into larger applications, a full system design is a great option. This system could range from a fighting system for a game to an inventory management system for a manufacturing application or a quiz system for a testing application.

Standalone code samples: Include snippets of code that show your programming skills. Focus on demonstrating clean and well-structured code, adherence to coding standards, and problem-solving approaches. Be sure to include comments in the code to provide context and explain your thought process. These code samples don't need to be part of a complete project but should demonstrate your knowledge or ability in a specified area, including how the code interacts with other systems in the application.

Depending on your specific area of interest, some other portfolio pieces might be:

User interface (UI) design and implementation: Demonstrate your proficiency in designing and implementing user interfaces. Create a portfolio piece that showcases your ability to enhance user experience through intuitive and visually appealing interfaces.

Procedural generation: Showcase your skills in procedural content generation by creating a system that generates game levels, landscapes, or other content dynamically. This can be particularly impressive for those interested in game development.

Networking and multiplayer functionality: Develop a project that demonstrates your understanding of networking and multiplayer functionality. This could be a simple multiplayer game or an application that relies on real-time collaboration.

Tool development: Design and implement a custom tool that enhances the development process. This could be a utility for asset management, a debugging tool, or any other tool that streamlines tasks for RT3D development.

Integration with external APIs: Showcase your ability to integrate external APIs into your projects. This could involve incorporating weather data, geolocation services, or other APIs relevant to your chosen project.

A note on art

Many programmers worry about including visual elements in their portfolio because they think it will distract from the code that they've written. This is an unnecessary concern. If you're building a game and are using open source assets, commissioned art, or even placeholder art (sometimes called programmer art), simply use good quality project descriptions to define what the viewer should be focusing on in the piece. Remember to appropriately credit any assets that you use.

Portfolio maintenance

A portfolio is an asset that you should regularly curate as your skills grow and evolve. It is also a very good place to focus your efforts on as you wait for new job opportunities to become available. Consider the following when maintaining your portfolio:

□ **Regularly remove outdated work:** Ensure your portfolio always aligns with your current skill level. Regularly review and eliminate pieces that no longer reflect your expertise or current approach to work. This ensures that viewers are able to accurately estimate your skill level.

□ **Avoid unedited tutorial work:** Early on, your portfolio may include tutorial or assignment pieces. Improve these by adding variation or extra content for uniqueness, making your portfolio stand out from others who used the same tutorials.

□ **Show your personality with your work:** Use your portfolio to showcase your interests, values, and unique style to potential employers through diverse projects that highlight your technical skills and problem-solving approach.

□ **Focus on quality and diversity of work:** Choose fewer, high-quality projects for your portfolio to showcase diverse skills. Each should highlight your technical abilities, problem-solving, and creativity. Include more than one example to show potential employers your skills.

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LinkedIn profile

In the RT3D industry, a strong LinkedIn profile is crucial and often underestimated by job seekers. LinkedIn is a vibrant community for the RT3D industry, regularly used by recruiters for initial candidate evaluations. Not having a LinkedIn profile might raise questions. The platform is a crucial networking space for the RT3D community where professionals share, stay updated about industry trends, and find job opportunities. Therefore, a well-crafted LinkedIn presence significantly boosts professional visibility and navigation of the RT3D job market.

When creating your LinkedIn profile, consider the following:

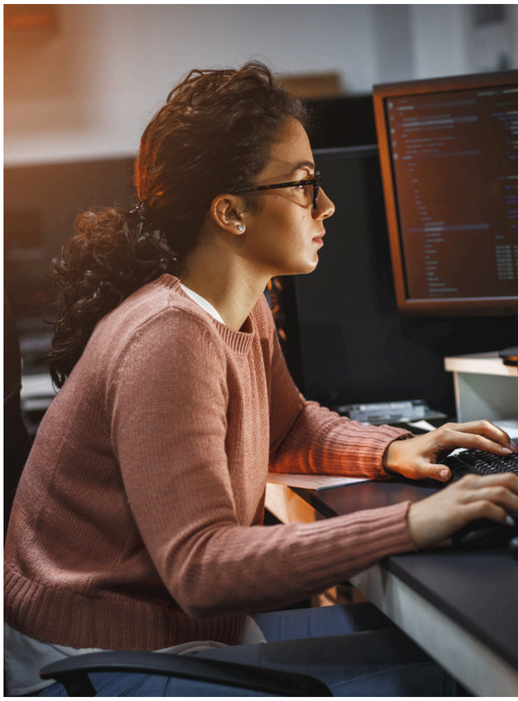
□ **It is a professional space:** While LinkedIn can be considered a social media site, it's one for professional use exclusively. Use LinkedIn with the expectation that potential employers will see everything you post and include on your profile.

□ **Create your resume first:** Having your resume created first will significantly speed up the process of creating your LinkedIn profile.

□ **Customize your LinkedIn URL:** Personalize your LinkedIn URL to make it easy to share. A good rule of thumb is to make your URL your name.

□ **Join and participate in groups:** Join LinkedIn groups that align with your interests to connect with fellow professionals in the industry you wish to join. Engage in discussions and share your insights in a respectful, professional manner.

□ **Including a professional photo is normal:** Unlike on a resume, LinkedIn profiles can include a personal photo. This should be a professional, clear image of yourself, not a group shot. Essentially, choose a picture that would be suitable for a school or work ID.



Application Tips

□ **Spell check:** Carefully check your resume, cover letters, portfolio, and LinkedIn profile for spelling errors. If possible, have your documents reviewed by another person to help identify any words that are spelled correctly, but used in the wrong context (for example, do you actually have a “Skulls” header in your resume, rather than a “Skills” header?).

□ **Find the hiring point of contact:** When applying for jobs, identify and connect with the hiring manager or recruiter via the company's site or LinkedIn. After applying, express your interest in the role to show proactivity. This gets you noticed, creates a good first impression, and aligns you with the goal of finding a proper fit, increasing your chances of standing out.

□ **Ask questions during the interview:** Have questions ready for your interview. This shows your interest in the role and helps you understand expectations and company culture. Being question-less could appear as disinterest or lack of preparation.

□ **Follow up:** Follow up with all communication during the application process. It shows politeness, an appreciation for people's time, and reinforces your interest. Respond to emails/calls promptly but not outside of working hours. Use follow up emails to thank people, ask additional questions, or clarify next steps post-interview.

□ **Assess company fit:** Remember, interviews are a two-way street. Just as the company is evaluating you, assess if you'd thrive there. Don't rush into unsuitable jobs due to circumstances, as you may end up job hunting again soon. During interviews, gauge if the company matches your values and work style for a better career fit.

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Navigating job rejection

Don’t take rejection personally: Job hunting can be challenging, especially when faced with rejection, lack of interviews, or unanswered applications. It's crucial not to tie these setbacks to your worth or skills. Rejections are often part of the process and are not indicative of your abilities or personal value.

Recognize the numbers: Job openings frequently attract a large pool of applicants, making it easy for resumes to be overlooked. Understand that the competition is fierce, and rejection doesn't necessarily reflect on your qualifications. Sometimes, it's a matter of timing, and your application might not align with the current needs of the company.

Appreciate the complexity of decisions: Companies often encounter situations where they have multiple qualified candidates but can only choose one. This means rejection doesn't always correlate with your capabilities; sometimes, it's about finding the best fit within a pool of strong contenders. Don't let such decisions undermine your confidence.

Persistence is key: Job hunting is, in many ways, a numbers game. Consistency and persistence often yield positive results. Rejection is a natural part of the journey, but it doesn't define your worth or potential success. Use each setback as an opportunity to refine your approach, learn from the experience, and continue applying with confidence.

Seek feedback: If possible, consider reaching out to recruiters or hiring managers for constructive feedback on your application. This can provide valuable insights and help you tailor future applications. Remember, the aim is not only to secure a job, but also to find the right fit for both you and the employer.

Focus on self-improvement: Use the downtime between applications to enhance your skills, update your resume, or explore new opportunities for professional development. This proactive approach not only boosts your confidence but also demonstrates to potential employers that you are committed to continuous growth.

Preparing for an interview

Moving to the interview stage is a pivotal moment for your job search and can often come with nervousness or stress. Proper preparation is key to presenting yourself as a confident and capable candidate. This section will provide some essential steps to ensure you navigate the interview process seamlessly and leave a lasting positive impression on potential employers.

□ **Respond promptly:** When contacted by a hiring manager or recruiter for an interview, respond promptly. Don't feel pressured to respond outside of regular working hours, however, demonstrate your enthusiasm and commitment by acknowledging their outreach in a timely manner.

□ **Share your availability:** Many companies use special applications that allow you to self select your availability, but if this isn't the case, provide a range of dates and times for the interview within the upcoming weeks. If dealing with different time zones, specify your current time zone to avoid scheduling confusion.

□ **Time your availability strategically:** Whenever possible, schedule the interview on a date and at a time when you have few or no other commitments. This minimizes stress and allows flexibility for the interview to extend if needed.

□ **Present yourself professionally:** Regardless of the interview format (in person or online), present yourself professionally. While RT3D dress codes may lean towards casual, research the company's expectations and opt for business casual attire if uncertain.

□ **Online interview etiquette:** If your interview is online, be sure to implement the following guidelines:

- Choose a quiet location to avoid interruptions.
- Test your camera, microphone, and audio in advance to prevent technical issues.
- Pay attention to the background, ensuring it is neat and presentable.
- Consider using a professional digital background if necessary.

□ **Practice interview:** If you feel nervous, consider conducting a practice interview. This helps familiarize yourself with common questions and boosts your confidence. This can be done with a trusted friend or family member, or simply by answering example interview questions out loud by yourself.

□ **Stay positive:** Avoid excessive negativity, even if your job search has been challenging. Present yourself as genuinely excited about the opportunity, focusing on a positive mindset; remember, this interview might lead to a job offer.

The STAR interview method

The STAR method, which stands for Situation, Task, Action, and Result, is a common approach where interviewers often frame questions to be best addressed using this structured format.

Watch for questions that prompt you to describe past situations, discuss specific challenges, or detail achieved results. When responding, structure your answers to articulate the situation or task, the actions you took, and the positive outcomes attained. This method provides a systematic way to highlight your problem-solving and decision-making skills, aligning seamlessly with the industry's interview expectations. Utilizing the STAR method enables you to stay focused, respond succinctly, and demonstrate your skills with the interviewer's preferred format, leaving a lasting positive impression.

The interview process

Interviews for junior programmer positions typically include more than one round of interviews. These may be a mix of behavioral interviews to assess your interpersonal skills, teamwork, and cultural fit, as well as technical interviews to evaluate your technical knowledge and problem solving approach. Technical interviews may involve discussing real-time 3D concepts, algorithms, data structures, or specific programming languages and frameworks.

Technical assessment: Many companies conduct a technical assessment to evaluate your programming skills and problem-solving abilities. This may involve coding exercises, algorithmic problems, or even a take-home coding assignment. Be prepared to showcase your coding proficiency and demonstrate your ability to solve programming challenges.

Coding interviews: Some interviews may include hypothetical problem-solving scenarios or coding challenges to assess your ability to communicate, think critically, and solve problems in real-time. This may involve working through a coding problem on a whiteboard (either physical or digital) or explaining your approach to a given scenario. These interviews generally focus more on assessing your thought process, and may even limit you to writing pseudo code.

Cultural fit: In addition to technical assessments, companies often prioritize interviews focusing on cultural fit. These conversations provide the prospective team with the chance to understand how your values align with the company culture. Expect questions that delve into your work style, collaboration preferences, and how you approach challenges as part of a team. Demonstrating your adaptability, communication skills, and enthusiasm for collaborative work is key to making a positive impression in these cultural fit interviews.

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Resources for career development

As this job profile is still in its early access phase, we are working to gather resources that align with the junior programmer role. Our commitment is to provide you with a comprehensive and up-to-date aid that will assist in optimizing your career path. If you are an educator and have any learning experiences or know of any relevant resources that could add value, we encourage you to share this invaluable information via this submission form. Your contribution will not only be highly appreciated, but also integral to the growth of our community of junior programmers.

Learning experiences

Junior Programmer Learning Pathway on Unity Learn: This complete learning experience is designed for anyone interested in learning to code and obtaining an entry-level role using Unity. This pathway assumes a basic knowledge of Unity and has no math prerequisites. The Junior Programmer Pathway also prepares you for the Unity Associate Programmer certification.

Certifications

Unity Certified Associate Programmer: This certification validates your Unity programming skills to employers by demonstrating core skills and competencies across programming, UI, debugging, and asset management.

Acknowledgements

The development of this Universal Job Profile was made possible by the expertise and support of the Employer Advisory Board (EAB). Composed of professionals from leading companies in the real-time 3D landscape, the EAB serves as dedicated subject matter experts for the initiative, offering invaluable insights into the in-demand job roles within their respective industries. We extend our sincere thanks to each member of the EAB for their commitment to the success of the Universal Job Profiles. Their dedication not only showcases their professionalism but also highlights their significant investment in shaping a brighter future for the RT3D industry. We appreciate the collaborative spirit and contributions of the EAB, which have played a crucial role in advancing careers and opportunities within the RT3D field.

Employer Advisory Board Members

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About the Universal Job Profiles

The Universal Job Profiles are developed as part of Elevate, a Unity initiative dedicated to facilitating the entry of new talent into the RT3D industry by establishing robust and open lines of communication among job seekers, educators, and employers.

Universal Job Profiles have been created to provide a unified framework for defining job roles within the RT3D sector. The goal of this document is to serve as a handbook for anyone seeking a job, aiming to create a learning experience, or vetting candidates. By standardizing job roles, aspiring professionals can confidently acquire the necessary skills, educational institutions can design comprehensive learning experiences covering the full spectrum of each job, and employers can easily evaluate job candidates.

The data for Universal Job Profiles was gathered using the expertise of the Employer Advisory Board: a group of experts from industry-leading companies across all parts of the RT3D landscape, including games, media, training, and more. The board serves as our subject matter expert resource, providing crucial industry insights about in-demand job roles. By collaborating with the Employer Advisory Board, we ensure that the information shared in the Universal Job Profiles is up-to-date, accurate, and representative of actual industry needs.

These documents have been created in service to the RT3D industry, aiming to enable more diverse and talented individuals to secure jobs in this dynamic field. As such, Universal Job Profiles will always be freely available for public use.

To learn more, check out the Elevate program overview on Unity Learn.

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Contributing to the Universal Job Profile

All Universal Job Profiles are living documents: they are reviewed by the EAB twice annually to ensure that they remain accurate and up to date with the latest needs of the RT3D industry. We also welcome any suggestions from the community to help improve the overall quality and usability of these documents.

If you have any suggestions, questions, or feedback regarding this Universal Job Profile, please let us know by filling out this form:

Universal Job Profile Feedback

If you or your company has created a career development resource, such as a learning experience, certification or mentorship program that aligns with this Universal Job Profile and would like to have it included in this document, please fill out this form:

Universal Job Profile course submission

The Employer Advisory Board is actively recruiting new members. This is a volunteer board for companies that use RT3D tools to ship their products and personally employ staff that use RT3D tool sets as part of their day-to-day job. Members of the EAB advise on industry standards, provide subject matter experts for informational interviews, and help determine what Universal Job Profiles should be made next. If your company is interested in learning more and potentially joining the board, please fill out this form.

Employer Advisory Board Membership Application

CHANGELOG

0.0.2 - 2024-06-25

- Early access release:
  - Minor layout adjustments
  - Updated contact links
  - Updated company logos
  - Added pay band info

0.0.1 - 2024-01-17

- Initial review release