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/** -=Contact Info=-
 * @Phone: (603) 800-1151
 * @Addr: 10 Mill Rd, Durham, NH, 03824
 * @Email: timothy.clocksin248@gmail.com
 * @linkedin.com/in/timothyclocksin/
 */
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Timothy Clocksin

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Skills
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UNH Graduate with a B.S. in Computer Science possessing strong problem-solving and debugging skills. Eager to expand and apply the skills and knowledge gained as a software developer. Looking to use my detail-oriented and focused personality while working on projects or tasks in my position.

Languages & Tools

Tcl (Experienced)	Scala (Intermediate)	Git (Experienced)
C/C++ (Proficient)	TLA (Intermediate)	Unix (Proficient)
Java (Competent)	MATLAB (Intermediate)	Unity (Intermediate)
Python (Competent)	OpenGL (Intermediate)	Blender (Intermediate)

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Experience
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UNH Interoperability Lab - Durham, NH   4 Years

Intern Software Developer

- Implemented 50+ testing scenarios and topologies using a variety of networking devices and systems. This was done by updating firmware, capturing packets via Wireshark, low-level configuration, and reading documentation.

- Contributed to the maintenance of the Java-based tool INTACT^{TM} by refactoring code, reducing redundancy in modules, debugging and fixing user-reported issues, documenting internal APIs, and adding new features to the software.

- Created 100+ Python and Tcl scripts for testing IPv6 and IPsec protocols running on INTACT^{TM}.

- Added improved code to scripts that reduced command duplication by 67% and simplified complex operations for Tcl scripting into a single command.

- Utilized Atlassian software: Jira, Confluence, Bitbucket, and Bamboo, for Agile team coordination. Reviewed 200+ code changes.

Albacore Museum - Portsmouth, NH   1 Year

VR (Virtual Reality) Developer

- As a team of 4 students, in collaboration with UNH and the USS Albacore Museum, designed and developed a VR application to increase museum accessibility to 90% for people with disabilities.

- Created physically based, detailed materials designed to increase immersion within the virtual world.

- Presented the museum with an in-beta prototype including 3 submarine rooms, interactive objects, periscope functionality, reduced motion-sickness movement, Boid AI, and reactive controls.

- Leveraged Blender and Unity LOD (Level of Detail) tools to reduce model polygon count by 50-75%.

- Utilized Android Studio and frame profiling tools to debug app runtime issues within the Quest 2 headset.
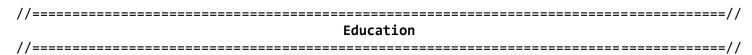
- Contributed roughly 60% of the technical work on the project, including texturing, building and deployment, testing, Oculus API integration, optimization, source control, add-on implementation, room modeling and lighting, and audio.

- The product won 1st place at the 2022 UNH URC (Undergraduate Research Conference) in the Application of Computer Science category.

Mamelodi Initiative - Mamelodi, Gauteng, ZA   1 Month
Volunteer Teacher
- Prepared and implemented 2-hour lesson plans once a week for students and other teachers to follow.

- Worked individually with students to improve their math and English skills. At the end of the program, many students saw at least a 30% increase in performance.

- Taught a coding workshop that introduced students to computer science and programming.

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Education
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University of New Hampshire
Bachelor's Degree in Computer Science, 2018-2022

Notable Electives
Computer Graphics
- Used C++, OpenGL, and Visual Studio to implement traditional rendering techniques and covered different optimization strategies.

- Studied the real-time rendering pipeline of current GPUs and shaders. Looked at real-time rendering topics such as shadow mapping, Bresenham's line algorithm, Bezier curves, Phong shading, texture mapping, 3D projection, camera, world, and object space, and global illumination.

- Took initiative to learn how to implement Schlick's approximation and multithreaded raytracing in OpenGL, which was not a requirement in the class.

Parallel & Distributed Programming

- Wrote multiple programs in Java that implement different multithreading concepts such as locks, semaphores, asynchronous data structures, promises, futures, blocking and non-blocking systems, and distributed computation.

Formal Specification & Verification of Systems
- Used the TLA+ (Temporal Logic of Actions) toolbox to model formal specifications of various systems.

- Verified system correctness through proof by exhaustion or proved incorrectness by counterexample.

- Used the TLA+ toolbox to show deadlock conditions in a published research paper.

Applications of Linear Algebra
- Covered a wide array of applicable scenarios for linear algebra such as machine learning, least squares fitting, closed exchange economy, FFT (Fast Fourier Transform), population dynamics, and computer graphics.

- Learned in-depth manipulation of vectors and matrices in N dimensional space with MATLAB. 2nd and 3rd dimensional calculations were done by hand.

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