

Patrick Blood

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EDUCATION

Brigham Young University

Provo, UT

Bachelor of Science in Computer Science: GPA 3.79/4.00 (Major: 3.81)

Sep. 2021 – Apr. 2027

Relevant Coursework: Software Design, Algorithm Design Analysis, Web Programming, Computer Systems

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (MySQL), JavaScript, HTML/CSS

Frameworks: React, Node.js, JUnit, pytest

Developer Tools: Git, Docker, Google Cloud Platform, AWS, VS Code, Maven

EXPERIENCE

Software Engineer Internship

May 2022 – Aug 2022

DT Media LLC

Cumming, GA

- Designed and implemented a product tracker using the Keepa API to monitor price history and availability across 10,000+ Amazon listings, improving data accuracy and automation for the product management team
- Demonstrated a growth mindset by independently researching API integration best practices
- Collaborated with a team engineers in an agile environment to contribute to sprint planning and peer code reviews
- Presented project results to the General Manager, translating technical outcomes into business impact

Student Computer Specialist Representative

Apr. 2025 – Present

Brigham Young University

Provo, UT

- Resolved 20+ technical support requests per week for students, faculty, and staff, ensuring minimal downtime for academic and administrative work
- Provided empathetic, customer-focused service that was efficient and practical
- Trained 2 new student specialists, fostering teamwork and knowledge sharing

Teacher's Assistant - Discrete Structures & Computational Theory

Dec. 2024 – Present

Brigham Young University

Provo, UT

- Supported learning for 120+ students by leading office hours, problem-solving workshops, and review sessions
- Graded and reviewed 250+ assignments/exams with consistent accuracy and timeliness, ensuring fairness and transparency in evaluation
- Motivated students to engage with abstract CS concepts by connecting theory to practical applications

PROJECTS

Simple Ray Tracing Engine | Java, Git

July 2025 – Present

- Designed and implemented a 3D ray tracing render engine from scratch in Java to explore rendering concepts
- Built a custom rendering pipeline that outputs PPM image files with support for multiple material types
- Applied computer graphics principles such as ray-object intersections, reflection, and refraction physics
- Developed object-oriented architecture allowing extensibility beyond current support for spheres (e.g., future shapes, lighting models, textures)

Multiplayer Chess Application | Java, MySQL, Maven, Git

Jan. 2025 – Apr. 2025

- Designed and implemented a client/server architecture supporting multiplayer chess games, demonstrating mastery of HTTP, WebSocket communication, and database persistence
- Implemented core chess logic, game state management, and networking protocols, enabling real-time gameplay
- Applied software engineering best practices including unit testing, serialization, and security