Patrick Punch
Software Engineer, Secret Security Clearance

Summary

Passionate about sustainable technology and software engineering, leveraging technical expertise to create innovative solutions in AI, machine learning, and embedded systems. Proven ability to lead, collaborate, and solve complex problems.

Contact | Skills

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Technical: Python, Java, C, C++, Ruby, SQL, HTML/CSS/JS Git, Docker, Tableau

Teamwork: Communication, Collaboration, Leadership

Volunteering

Hacker Refactor Club
Treasurer · *Sept. 2024 to Current*
- Managed the budget and finances for the computer science club, overseeing and tracking expenses to support member activities.

Projects

Music AI · *Sept. 2024 to Current*
- Developing a symbolic music processing toolkit utilizing AI/ML for pattern recognition and analysis of musical structures.

Bayes Network · *May 2024 to June 2024*
- Built a Bayesian inference model using Neapolitan's probability propagation, demonstrating predictive analytics for decision-making.

AI Agent for Othello · *May 2024 to June 2024*
- Implemented a Minimax AI with alpha-beta pruning, optimizing move selection and strategy for an Othello-playing AI.

Shortest Path with A* · *Mar. 2024 to Apr. 2024*
- Engineered a command-line tool to compute the shortest path between cities using A* and other graph traversal algorithms.

Employment

Health Elements
Artificial Intelligence Engineer · *June 2025 to Current*
- Integrated LLM APIs to interface healthcare data and optimize data analysis of different health elements.
- Focused on developing AI-driven solutions for data analysis, improving patient outcomes through advanced data processing techniques.

Oregon State University – Cascades
Computer Science Tutor · *Sept. 2023 to Current*
- Worked with students in person and remotely to help them grasp key computer science concepts, like data structures and algorithms.
- Focused on building a supportive atmosphere that encouraged students to engage with the material.

Oregon Army National Guard
Healthcare Sergeant · *Oct. 2016 to Current*
- Led and and mentored a team of soldiers during deployment to Eastern Europe, managing clinical training and professional development.
- Trained and coordinated medical personnel for mission-critical operations, ensuring readiness and operational success.

Starbucks Coffee Company
Shift Supervisor · *Nov. 2022 to Current*
- Streamlined barista workflows, and ensured adherence to protocols for money exchange and food safety practices.
- Optimized store workflow, resulting in a 10% increase in revenue through faster drive-thru times.

Education

Oregon State University · *June 2026*
- B.S Computer Science
- Relevant Coursework: Data Structures, Algorithms, Machine Learning, Computer Networks, Software Engineering