Luke E. McDougall

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EDUCATION

The University of New Mexico **Albuquerque, New Mexico**

B.S. in Computer Science *Expected Graduation, May 2024*

- **Concentrations:** Machine Learning
- **GPA:** 3.70/4.00, *Dean's List*
- **Related Coursework:** Data Structures & Algorithms, Objects & Design, Computer Organization & Programming, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Operating Systems

EXPERIENCE

HII Mission Technologies **Albuquerque, New Mexico**

Software Engineer Intern *Jan 2024 – Current*

- Developed space domain simulations utilizing Advanced Framework for Simulation, Integration, and Modeling (AFSIM), enhancing team's ability to model complex aerospace scenarios.

Sandia National Laboratories **Albuquerque, New Mexico**

R&D Software Engineer Intern *Jan 2023 – Dec 2023*

- Developed an innovative edge detection program using computer vision to monitor changes in distance within a 3D printing environment, enabling dynamic control of printer speed based on real-time feedback, significantly enhancing printing accuracy and data collection.
- Authored a program that calculates optimal movement for the printer's extrusion piston, correlating with the length of G-code commands. Integrated this functionality into G-code processing to ensure consistent extrusion rates, thereby improving overall print quality and reliability.
- Conducted in-depth research in additive manufacturing, culminating in the publication of a research paper that contributed new insights into 4D printing technology, enhancing the understanding and capabilities within the field.

Target **Minneapolis, Minnesota**

Software Engineer Intern *Jun 2023 – Aug 2023*

- Developed a user-friendly web interface for a previously CLI-only application, enhancing team members' ability to easily access and monitor their deployed APIs, thereby improving operational efficiency and user experience.
- Enhanced web UI performance and reliability by implementing comprehensive unit and end-to-end testing methodologies using React.js, TypeScript, and Node.js, leading to a more robust and user-friendly application.
- Fortified the back-end framework by implementing a GraphQL API using Kotlin, Gradle, and Spring Boot, which not only enhanced system functionality but also improved the efficiency and scalability of backend processes.
- Streamlined the development and deployment process by effectively leveraging CI/CD tools, ensuring swift, efficient, and reliable delivery of new features and updates.

LEADERSHIP

University of New Mexico, College of Engineering **Albuquerque, New Mexico**

Teaching Assistant for CS 351 (Design of Large Programs) *Aug 2023 – Dec 2023*

Target **Albuquerque, New Mexico**

Closing Team Leader *Jun 2022 – Jan 2023*

- Key carrier that oversaw store closing operations every week, representing the store director and ensuring operational efficiency.
- Collaborated with store leaders, providing support and resources to meet business objectives across various departments.
- Streamlined business operations and promoted teamwork by supervising a closing team of 15-20 team members.

PUBLICATIONS

- "Free-Form Liquid Crystal Elastomers via Embedded 4D Printing," *American Chemical Society,* December 2023

SKILLS

Programming: Java, Python, C++, C, React.js, JavaScript, HTML/CSS,
Tools: IntelliJ, VS Code, Git, Spring Boot, Visual Studio