JAMES DONALDSON

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Education

The University of Utah, Salt Lake City, UT   Anticipated May 2025
Bachelor of Science, Computer Science
    GPA *3.58,* Major GPA *3.83*
    Minor in Physics, Data Science Certificate

Skills

Languages – Java, JavaScript, Python, C, C++, C#, Java, Kotlin, HTML/CSS, SQL
Frameworks/Libraries – FastAPI, Git, Django, AWS, SQL Server, React, NPM, Tailwind, TensorFlow, Qt, .NET
Developer Tools - VSCode, Visual Studio, Android Studio, Eclipse
Technical Skills – Backend Engineering, Relational Databases, Data Structures & Algorithms, RESTful APIs, Agile Methodologies, Versioning, AI/ML, SDLC, Unit Testing, UI/UX Design, Peer Code Review

Experience

Rocky Mountain Nanotechnology, Millcreek, UT   **December 2023 - Present**
Computer Specialist
- Spearheaded the development of an internal inventory and bookkeeping web service, cutting bookkeeping time by 5+ hours a week and boosting manufacturing yield by 15% through identifying procedural issues.
- Streamlined QA processes by training a convolutional neural network using TensorFlow to detect defects in probes.
- Developed algorithm to measure imaged probe tips automatically, saving 2+ weekly hours of QA inspection time.
- Designed, deployed, and managed public web page. UI/UX improvements led to an overall increase in sales of 10% and customer interaction of 20%. Deployment methods reduced annual website operating costs by 50%.

Projects

Inventory Application *Python, Django, VSCode*   **2024**
- Designed and Implemented SQLite database to create and manage orders, customers, and inventory.
- Created an API for database interaction, ensuring security and referential integrity.
- Developed a script to label SEM image data and trained a neural network for defect classification in probes, enhancing the accuracy and efficiency of quality control.
- Implemented machine learning and image processing features using TensorFlow, Matplotlib, and OpenCV to streamline QA processes.

Chat Application *Python, React, AWS*   **2024**
- Developed a high-performance backend utilizing FastAPI with SQLAlchemy and SQLite, incorporating JWTs and OAuth2 for secure user authentication and authorization.
- Designed and implemented a responsive and intuitive user interface using React and Tailwind CSS, ensuring a seamless and engaging user experience.
- Deployed serverless application leveraging AWS Lambda, Amazon RDS, AWS Amplify, and API Gateway, optimizing performance and scalability.
- Integrated unit testing into CI/CD pipeline using PyTest, achieving 90% code coverage and ensuring robust backend functionality.

LMS Backend *C#, MySQL, Visual Studio*   **2024**
- Architected and integrated a relational database for a Learning Management System, including creating an Entity Relationship Diagram to ensure consistency and referential integrity.
- Established seamless integration between the backend and ASP.NET frontend by writing connecting LINQ queries.

Sprite Editor Software *C++, Qt, Git*   **2023**
- Led a team of 6 student engineers to implement various features for a sprite editor, including drawing and shape tools, grid and overlay layers, and animation timelines for playback.
- Coordinated version control in a team environment, requiring handling merge conflicts, creating branch strategies, and conducting code reviews for pull requests.