

# Domminic Mayer

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## SUMMARY

Backend-focused software engineer with experience building scalable APIs, ETL pipelines, and solutions. Passionate about distributed AI/ML systems, data processing, and infrastructure optimization.

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## WORK EXPERIENCE

### Redwood Materials

May 2024 - Dec 2024

*Software Engineering Intern*

Reno, NV

*(Python, AWS, React, PySpark, APIs, Tableau, Rest APIs, ETL, AWS Glue, AWS S3, Pandas)*

- Gained hands-on experience in a fast-paced, high-growth startup environment
- Eliminated manual engineering overhead by automating ETL workflows: improved data availability and reliability through AWS Glue and S3 integration
- Integrated REST APIs to enable real-time tracking of metal prices and battery recycling material composition, improving financial and operational decision-making
- Contributed to data pipeline development for an optimized battery recycling project, increasing profit margins by 10% through improved material flow and contract fulfillment

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## EDUCATION

### University of Nevada, Reno

May 2025

*B.S. in Computer Science and Engineering*

- Member of UNR Association for Computing Machinery Club
- UNR 2023 Biggest Little Hackathon 1st Place

**Coursework:** Data Structures, Testing/DevOps, DBMS, Design Patterns, ML, AI, Deep Learning

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## PROJECTS

### MedPASS: Senior Capstone Project

Present

*(NextJS, Tailwind, FastAPI, Postgres, SQLAlchemy, NumPy, pandas, scikit-learn, PyTorch, Docker, Git)*

- Leading a team of 4 in designing and developing a distributed system with AI-powered study tools, managing backend architecture, API development, and stakeholder communication
- Developing a backend-driven learning platform that leverages AI-driven analytics to predict student performance and optimize study plans for USMLE Step 1 preparation
- Building ML models for student performance prediction using historical exam data and study patterns, integrating real-time analytics dashboards for risk assessment and adaptive learning

### Personal Smart Home & AI/Automation System

2024

*(Raspberry Pi, Python, LLM, Docker, Kubernetes, Nginx, OpenVPN, PostgreSQL, React, FastAPI)*

- Created a home automation system integrating multiple IoT devices to manage hosted AI models, plant irrigation, lighting, and window controls in addition to remote control for devices
- Engineered a containerized microservices architecture with Docker orchestration and automated failover, integrating a self-hosted Ollama/Llama 3 AI assistant for offline voice control

### User Sentiment Analysis

2024

*(Jupyter Notebooks, NLP, scikit-learn, pytorch, React, NextJS, Tailwind, RESTful APIs)*

- Engineered a scalable sentiment analysis tool for analyzing text data in real-time using NLP models
- Developed an ML-powered analytics backend using FastAPI and PostgreSQL, enabling real-time insights with sub-250ms response times

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## RESEARCH

### MedPass: PREDICTIVE ANALYTICS FOR STUDENT SUCCESS

Present

Conducting novel AI research at the intersection of computer science and medical student education.