Sam Ghimire

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Education

University of Colorado Boulder – B.S. in Computer Science – GPA: 3.8 May 2024

- **Coursework:** Data Structures (C++), Computer Systems (C), Software Development (JavaScript), Algorithms, Database Systems, Data Science (Python), Principles of Programming Languages (Scala), Artificial Intelligence (Python), Robotics (Python), CyberSecurity, Data Mining (Python)

Experience

AI & Data Engineer, Medtronic Jun 2024 – Jun 2025

- Enhanced API reliability by maintaining a 99% stability rate, developing a custom Python load-testing framework for Kubernetes-hosted APIs, and surpassing legacy testing capabilities.
- Enabled seamless data management of over 100M rows by automating ETL workflows with Dockerized Python and Bash scripts for Snowflake and Oracle sources, ensuring timely, consistent analytics for surgical generators.
- Delivered end-to-end video metadata management by building integrated systems that capture DynamoDB content, stream through Kafka topics, and persist to PostgreSQL databases, supporting real-time analytics.
- Provided high-availability data infrastructure projects by collaborating across international Agile teams, implementing robust CI/CD pipelines, and ensuring 99%+ system uptime using cross-platform error handling.

Software Engineer Intern, Medtronic Jun 2023 – Aug 2023

- Enabled rapid log ingestion and data processing by developing a high-throughput Python REST API, extracting 100,000+ logs every 480 seconds from a data lake into PostgreSQL staging tables.
- Improved clinical device analytics by engineering JSON parsing scripts to extract vital R&D and RF data from service logs for further analysis.
- Enhanced research and data accessibility by creating five SQL-driven subtables for hardware, software, and time chip analysis, structuring millions of rows for targeted investigation.
- Supported large-scale analysis by examining over 10 million logs from 90,000 surgical generators and executing SQL analysis using Medtronic's PostgreSQL relational databases.

Software Engineer Intern, Medtronic Jun 2022 – Aug 2022

- Delivered insights for surgical device optimization by conducting detailed performance analysis of clinical logs using Python, refining key procedural metrics for detection of surgical procedures through statistical modeling.
- Elevated machine learning outcomes by designing and executing comprehensive lab tests in the Tissue Lab, systematically collecting and preparing high-quality datasets for ML model training and validation.
- Advanced clinical research by performing Python-based PCA and LDA machine learning analysis on lab-acquired bench data using scikit-learn, uncovering critical patterns and informing both R&D and engineering decisions.

Projects

Engagement Model, Alliant National Title Insurance Machine Learning, Python, Google Maps API

- Led a cross-functional engineering team in designing and deploying a Dockerized full-stack web application.
- Developed and integrated a predictive Python-based machine learning regression model with a scalable Node.js backend for real-time dynamic real estate analytics and mapping via Google Maps API.

Media Hosting Application React, Typescript, AWS

- Architected a full-stack media hosting platform with React/TypeScript frontend and Node.js REST API backend, supporting secure file uploads up to 50MB with role-based access control and AWS S3 integration.
- Engineered responsive UI components with TypeScript interfaces and React Context for state management, enabling real-time upload progress tracking and seamless media management functionality.

Skills

Technical Skills: Python, C++, C#, C, Java, JavaScript, TypeScript, SQL, HTML, CSS, Bash
Tools/Technologies: Node, React, Flask, Unity, Docker, Git, CI/CD Pipelines, WSL, Kubernetes, AWS, Android Studio, PowerShell, CLI, Jira, PostgreSQL, JupyterLab, Pandas, NumPy Linux/Unix, Argo CD, Kafka