PEM T. GURUNG

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EDUCATION

College of Wooster Wooster, OH

Bachelor of Arts in Computer Science **Expected Graduation:** May 2026

- **GPA:** 4.0/4.0 | Honors/Awards: Dean's List.
- **Relevant coursework:** Data Structures & Algorithms, User Interface Design, Software Engineering, Programming Languages, Algorithm Analysis, Theory of Computation, Operating Systems, Discrete Math, Calculus.

RELEVANT EXPERIENCE

Schneider Electric - Software Engineer Intern | Remote May 2025 - July 2025

- Reduced client data retrieval time by 25% by engineering an **Agentic AI** co-pilot using a **Large Language Model (LLM)** and **LlamaIndex** to translate natural language into efficient **SQL** queries.
- Increased query efficiency by 30% by designing a **multi AI Agent workflow** in **Python**, where a central **Coordinator Agent** delegates tasks to specialized **Function Agents** (Knowledge, Metrics, Invoice).
- Developed the central backend for all **AI agent** operations by building a scalable **Model Context Protocol (MCP) server** with **FastAPI**, containerized with **Docker**, and deployed to **AWS EKS** using **Kubernetes**.
- Automated 95% of **AI agent** tasks by developing an intelligent **MCP client** that uses an **LLM** to dynamically select tools and executes workflows via the **Kubernetes-hosted MCP backend** on **AWS**.

College of Wooster - Digital Archive Research Intern | Wooster, OH October 2023 - September 2024

- Maintained and enhanced the full-stack website for the Anglophone Chile project using **Django**, **React.js**, **PostgreSQL**, **and Bootstrap**, preserving historical data on 19th-century English-speaking settlers in Chile.
- Increased user engagement by 30% by developing an automated email notification system with **Django**, **Celery**, and **Redis** that delivers 500+ notifications monthly.
- Enhanced usability scores by 25% by streamlining the website's architecture with **React.js** and **Django REST Framework (DRF)**.
- Reduced page load time by 15% and boosted mobile UX by 20% by implementing 20+ front-end optimizations using **React.js**, **Bootstrap**, and **CSS**.

College of Wooster - MCS Research Intern | Wooster, OH January 2024 - May 2024

- Improved pattern identification by 12% and reduced analysis time by 20% by developing **TensorFlow** deep learning models to analyze 5,000+ experimental samples.
- Achieved 15% better accuracy in analyzing bacterial resistance by building a multi-stage data pipeline with **Scikit-Learn** clustering and **Matplotlib** visualization tools.
- PPredicted experimental outcomes with 10% higher accuracy across 20 scenarios by creating agent-based simulations using **Mesa** and **PyTorch**, with **MLflow** used for tracking model performance.
- Streamlined preprocessing and data handling using **Pandas**, enabling more efficient integration of simulation outputs into downstream analyses and model tuning workflows.

PROJECTS

Rate Lowry - Food Review Web Application GitHub | Live Site

- Engineered a full-stack food review app with **Next.js** and **MongoDB**, featuring real-time image uploads via **Cloudinary** and a responsive UI with **Tailwind CSS**.

Los Angeles Fire Rescue Resource Allocator - Emergency Response Mapping GitHub |Live Site

- Designed a **React.js** web app for dynamic emergency response, integrating **Leaflet** maps and a **JavaScript** genetic algorithm to optimize resource allocation in real time.

TECHNICAL SKILLS

- **Languages & Frameworks:** Javascript, Python, Java, C++, Kotlin, React.js, Node.js, Next.js, Typescript, Flask, Django.
- **Libraries & Tools:** Pytorch, TensorFlow, Git, GitHub, MongoDB, PostgreSQL, Google Collab, LLamaIndex, HTML, CSS.
- **Cloud/Distributed System:** AWS(EC2, S3, EKS), GCP, Firebase, Docker, Kubernetes.