Lalit Mada

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PROFILE

Systems Engineering student with experience in Python scripting, API integration, and backend automation. Familiar with LLM APIs, data pipelines, and AI-powered tooling to streamline workflows and system operations. Available for up to 12 months.

EDUCATION

University of Guelph   **Guelph, ON**

Bachelor of Engineering, *Engineering Systems & Computing*   *September 2021 – Present*

PROJECTS

System Monitoring & Alert Platform

Python, FastAPI, Glances, JSON, GitHub, Jira

- Built a Python-based backend tool for real-time CPU/memory monitoring, with alerts triggered through JSON-configured thresholds.
- Organized system health data into structured reports, using Excel and API parsing to visualize performance metrics.
- Collaborated in an Agile SCRUM team and used GitHub/Jira to track sprint progress and resolve backend issues.

Embedded Systems in ARM Assembly Coding

Motion-Detecting Security System | *C, FreeRTOS, STM32 Microcontroller Design*

- Built a FreeRTOS-based system on STM32 to capture, decode, and display images on an LCD screen.
- Implemented low-level programming with real-time resource allocation for camera, sensor, and LCD operation.

Agent-Based Ecosystem Dynamics Model

Honeybee Colony Dynamics | *Python, NumPy, Matplotlib, Jupyter Notebook*

- Developed an ABM to simulate honeybee populations under pesticide, disease, food scarcity, and seasonal stressors.
- Modeled agent roles with stochastic lifespans, infection states, and task transitions.
- Analyzed collapse/recovery dynamics and aligned findings with field data from U of G Honeybee Research Centre.
- Co-authored a research report on ecological implications and system resilience.

WORK EXPERIENCE

Canadian Nuclear Laboratories   **Chalk River, ON**

Maintenance & Configuration Engineering Student   *January 2024 - August 2024*

- Obtained Reliability Status upon employment, granting access to work in a protected environment
- Updated 5 PSV maintenance procedures in compliance with ASME, improving usability for site engineers.
- Organized inventory using Excel to align on-site pressure boundary components with storage specifications.
- Received training on effective ECC database (Engineering Change Control) usage to perform effective engineering design request principles in a corporate environment.

Cintas   **Cambridge, ON**

Engineering Intern   *June 2023 - September 2023*

- Used SAP to organize and validate inventory records, maintaining 95% turnover accuracy with real-time physical stock.
- Supported technical functions through ERP, inventory data, and hardware function troubleshooting for networks.
- Supported cross-functional teams in tracking and fulfilling high-priority client orders within strict timelines.

EXTRACURRICULARS

Guelph Intramurals Basketball, Men's 5v5 Competitive

Team Co-Captain,

- Organized and led practice sessions for a team of 9 players, achieving a playoff position.

L.I.T Program

Certified Leader In Training (L.I.T), YMCA Cambridge

- Gained experience in organizing activities and fostering collaboration in team environments.

Steve Nash Basketball League

Instructor, Volunteer

- 75+ hours in event planning, coaching, and scheduling in collaboration with YMCA staff.

SKILLS: Excel, Python, C, Java, HTML, CSS, FreeRTOS, VHDL, STM32, MATLAB, HTML, R, MS Office, SAP, OOP, Data Structures, RTOS, Arduino, Git, Conda, Jira, Jupyter, SQL, Agile, API Integration, OpenAI API (basic), LangChain (familiar), Automation Tools