SAANDIYA KPS MOHAN

(515) 350-6450 | saandiya.mohan@gmail.com | Portfolio | West Lafayette, IN

EDUCATION

Purdue University, West Lafayette, IN   **Expected Graduation: December 2026**
Master of Science in Electrical & Computer Engineering

Purdue University, West Lafayette, IN   **August 2023 – December 2025**
*Bachelor of Science in Computer Engineering, **Concentration:** Computer Systems*   GPA: 3.83/4.00

PROFESSIONAL EXPERIENCE

Krenicki Center for Business Analytics and Machine Learning, Purdue University   **June 2025 – Present**
Undergraduate Student Researcher – Machine Learning and Predictive Models

- Analyzed forecasting challenges for a demand planning team by evaluating the o9 tool's performance across short and long-term scenarios in a collaborative team setting.
- Applied predictive models, including Long Short-Term Memory (LSTM) networks, to enhance demand forecasting accuracy and streamline planning processes.
- Identified critical gaps in data interpretation and model adjustment by conducting stakeholder interviews and comprehensive tool analysis.
- Developed and delivered training to stakeholders from various major national companies on the application of machine learning and deep learning tools for effective demand planning.

Commerce International Merchant Bankers (CIMB), Malaysia   **May 2024 – August 2024**
Product Owner Intern, Digital Banking

- Authored detailed user stories to define functional requirements and customer journeys for the *CIMB OCTO MY* mobile application, contributing to a 38% increase in active user engagement.
- Collaborated with a cross-functional team of executive officers and quality assurance specialists to streamline decision-making and agile processes.
- Conducted agile events, including sprint planning, daily standups, and backlog grooming, to ensure project alignment and advancement for enhanced workflow.
- Cooperated with developers to locate and resolve critical application flaws, which resulted in a 37% improvement in user experience and app stability.

RESEARCH & LEADERSHIP EXPERIENCE

System on Chip Extension Technologies (SoCET), Purdue University   **August 2024 – Present**
AI Hardware & Digital Design Researcher

- Engineered a custom convolution controller for an AI accelerator in SystemVerilog, optimizing complex deep learning workloads with support for arbitrary input sizes and strides.
- Designed a parameterized im2col buffer achieving a 30% improvement in data reuse efficiency within systolic array pipelines.
- Developed a Python-based convolution simulator to verify hardware-accelerated ML pipelines, ensuring RTL correctness.
- Spearheaded research on Floating Point Unit (FPU) implementation for RISC-V, designing IEEE 754 compliant modules including adder, subtractor, and multiplication units.
- Built and optimized SystemVerilog testbenches, improving arithmetic unit precision and performance by 40%.
- Created RTL diagrams and conducted testing to validate arithmetic operations across accelerator and processor designs.

Electrical and Computer Engineering (ECE), Purdue University   **January 2025 – Present**
Undergraduate Teaching Assistant - ECE20875: Python for Data Science

- Mentored undergraduate students on Python programming fundamentals and the application of machine learning algorithms, including kNN, naive Bayes, and K-means clustering.
- Hosted weekly office hours to provide targeted support, debug student code, and reinforce complex problem-solving strategies to improve learning outcomes.
- Developed supplementary teaching materials, including review guides and code examples, to clarify core concepts and prepare students for assessments.

TECHNICAL SKILLS

Programming: C, C++, Python, SystemVerilog, SQL, MATLAB, R, Make
Dev Tools: Git, VS Code, Perforce, Questa Sim, Verilator, KiCAD, STM32CubeIDE, Cadence, FuseSoc, UVM
AI & Machine Learning: TyPhoon, Shared Patterns, Unreal Engine, o9, RNN, LSTM, CNN
Hardware Design: ASIC/FPGA Design, Digital Design, Systolic Arrays, RTL Development, STM32, ESP32 Feather V2
Project Management: GitHub, Jira, Confluence, Miro, Figma, Microsoft Word, Microsoft Excel, Microsoft PowerPoint
Libraries & Frameworks: Pandas, NumPy, Scikit-Learn
Languages: Tamil (Native), English (Fluent), Malay (Fluent)