

NUTTHAWAT PANYANGNOI

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WORK EXPERIENCE

IT Technician (Full time)

03/2020 to 08/2023

Mountain Cascade, Inc.

Livermore, CA

- Provided end-to-end IT support by identifying, troubleshooting, and resolving hardware and software issues in corporate environment.
- Performed hands-on technical work such as hardware repair, system upgrade, BIOS flashing, RAID configuration, VPN setup, and regular maintenance of servers and workstations.

Frontend Software Developer (Full time)

04/2018 to 03/2020

Amber System Technology

Pleasanton, CA

- Designed and refined the user interface of point-of-sale systems to ensure smooth navigation, visual appeal, and ease of use for small business clients and developed full-stack web applications provided long-term scalable solutions.
- Led front-end development of custom web application software by collaborating with clients to understand their goals and turning those into functional features.

PROJECTS EXPERIENCE

FoodReal iOS Application (Figma, React Native, Expo, Tailwind, Expo, Firebase)

In Progress

- Design and develop iOS app that promotes home-cooked meals and social food sharing through swipe-based interaction.
- Implemented core features including API 2FA, photo/video uploads, Firebase integration, and responsive UI with Tailwind.

Handheld Computing Device (C, ASM, Linux, KiCad, LTspice, Raspberry Pi CM4)

In Progress

- Designing and developing a handheld computer powered by Raspberry Pi CM4 on a custom Clockwork mainboard.
- Built a lightweight Linux Operating System including custom kernel, C program to toggle with MCU, L2C, GPIO, etc.

Neural Network Classifier – Iris Dataset (PyTorch, NumPy, Pandas, Python, Scikit-learn)

May 2025

- Built and trained a supervised neural network model to classify Iris flower species, leveraging linear regression as a baseline for comparison.
- Implemented model training with Adam optimizer and cross-entropy loss, tracking evaluation accuracy on test data.

Miscellaneous Embedded Projects in classroom (RTOS, C)

Apr 2025

- Developed a C program to toggle on the Texas Instrument MCU MSP432 in RTOS, internal, external oscillators
- Implemented peripheral function to interact with the MCU such as AES-128 encryption, access Flash memory, SRAM, send text through UART port, create ADC digitize Timer Trigger, measure ADC temperature, etc.
- Gained hands-on experience in real-time scheduling, task synchronization, and hardware-software interfacing at the MCU level.

FPGA implement RISC-V CPU Pipeline (Vivado, Verilog, System Verilog)

Apr 2025

- Developed and design CPU pipeline for RISC-V architecture using Verilog and AI tools (for learning purpose)
- Implemented circuit using Altera modalism simulated mux's, ALUs, data registers, Finite state machines, CPU design, etc.

Square & Triangular Waveform Generator Circuit (LTspice, Schmitt-Trigger CD-40106, Oscilloscope)

May 2024

- Designed and simulated a waveform generator using LTspice to produce square and triangular wave outputs across varying frequencies, leveraging a **Schmitt-Trigger (CD-40106) and BC547B transistor**.
- constructed and tested the circuit on a breadboard to verify functionalities with an oscilloscope and confirming design accuracy against simulation results
- Applied circuit analysis skills such as RLC circuit, op amps, MOSFET, diodes, transistors, Oscilloscope, etc.

Note Hub Web Application (Python3, Flask, SQLAlchemy, Django)

Apr 2023

- Built a web-based note-taking application inspired by Notion, allowing users to create, update, and delete notes.
- Implemented secure login system and session management using Flask and SQLite for lightweight deployment.

EDUCATION & CERTIFICATIONS

Bachelor of Science: Computer Engineering, Minor in Computer Science

Expected in 12/2025

San Jose State University (San Jose, CA)

Associate of Science: Computer Science, Minor in Mathematics

05/2022

Las Positas College (Livermore, CA)

Google Career: Foundations of Data Science, Get Started with Python

06/2025

LinkedIn Career: MySQL and Computer Components and Peripherals for IT Technicians

NASA L'SPACE Mission Concept Academy (NASA Marshall Space Flight Center & Arizona University)

05/2024

- Completed 4 months participated on training simulating the NASA Discovery mission lifecycle, including concept planning, systems design, and milestone reviews.

NASA Proposal Writing and Evaluation Experience

12/2024

- co-authored a research proposal on high-voltage, laser-chargeable battery systems for space missions, contributing to concept development, technical writing, and feasibility analysis.

TECHNICAL SKILLS

Programming Languages: C, C++, Python, JavaScript, MySQL, Verilog, HTML, CSS, React, React native, MongoDB

Machine Learning & Deep Learning: PyTorch, TensorFlow, NumPy, Scikit-learn, Pandas, OpenCV, Jupyter notebook, CUDA

Embedded Systems & Circuit Design: Raspberry Pi CM4, FPGA (Verilog/SystemVerilog), LTspice, Oscilloscope, KiCad

Software & Tools: Docker, VMware, Vivado, SolidWorks, Office 365, Figma

Hardware & IT Support: BIOS flashing, RAID, NAS and VIP configuration, hardware troubleshooting

Operating Systems: Linux, Windows, macOS

EXTRACURRICULAR ACTIVITIES

Las Positas College Computer Engineering Club

Active member - 2022

- Weekly collaborated on C++ projects leveraging data structure to implement efficient algorithm solved complex problems.

San Jose State Machine Learning Club

Active member - 2025

- Monthly collaborated on projects applying machine learning techniques (Neural Network, NLP models, etc.)
- Participated on latest ML technology and workshops and technical discussions outside the classroom.

San Jose State Cube3 Satellite Club (We built Satellite)

Active member - 2025

- Developed embedded C programs for the Astraeus-1 control board, enabling communication across multiple microcontrollers and integrating onboard sensors (XBee PRO S38 radio, barometer Mel3115, motion tracker ICM 20948, GPS, NEO M9N rope meter level GNSS position, and Micro Mod MCU).
- Partially implemented real-time data processing pipelines and built a React web interface to display system performance metrics and sensor outputs.

San Jose State Honor Engineering Club Tau Beta Pi

Active member - 2025

- Recognized for academic excellence and active participation in Tau Beta Pi, engaging in professional development events such as guest lectures and engineering seminars.

San Jose State Software Engineering Club

Active member - 2025

- Participated in coding challenges, technical talks, and peer collaboration events.