

Xavier Kuehn

SOFTWARE ENGINEER

PORTFOLIO

xavierkuehn.com

CONTACT

408.387.3265
xjkuehn@gmail.com
github.com/xavajk
linkedin.com/in/xavierkuehn

EDUCATION

SANTA CLARA UNIVERSITY

MS, Robotics and Automation
EXPECTED GRAD 2025

BS, Computer Science and
Engineering
EXPECTED GRAD 2024

- Tau Beta Pi Peer Tutor
- Robotic Systems Lab member

ACCOMPLISHMENTS

Deep Learning Specialization

from DeepLearning.ai (2023)

Tau Beta Pi Honor Society

Member (2022)

SCU Dean's List (2021)

SKILLS

Python, C, C++, Java
MongoDB, React, TailwindCSS
Git, Node.js, NumPy, Pandas
Arduino, Circuits, TensorFlow,
PyTorch, Computer Vision,
Sequence Models, Transfer
Learning, NLP

RELEVANT COURSES

OOP, Data Structures,
Algorithms, Networks,
Computer Architecture,
Probability & Statistics, Linear
Algebra, Machine Learning,
Artificial Intelligence

EXPERIENCE

MACHINE LEARNING INTERN – SYNOPSISYS

SUNNYVALE, CA | JUN 2024 – SEP 2024

Contributed to an internal research conference, providing my team with an open-source baseline solution that achieved 90% accuracy on test sets.

Building agent systems that use natural language to complete action items and goals for users, using prompt engineering to tailor processing and outputs.

Adhering to agile development practices in creating robust, flexible, and scalable systems that prioritize design requirements.

RESEARCH INTERN – ROBOTICS SYSTEMS LAB @ SCU

SANTA CLARA, CA | FEB 2022 – FEB 2023

Collaborated with lab members to design a vertical profiler that takes sensors readings from various depths; implemented GPS for locating the device.

Incorporated an accelerometer for gesture tracking and identification for a low-cost prosthetic hand, focusing on ease-of-use for amputees.

Assembled a satellite tracking system testbed using an antenna rotator and NOVA software to aid with class instruction and lab missions.

PROJECTS

TALK WITH YOUR DOCS! – PYTHON, FLASK, JAVASCRIPT, REACT

Reads PDFs inputted by the user then uses RAG to find relevant info related to the user's prompt.

Uses the HuggingFace API's question and answering model to incorporate seamless and accurate chatting .

The app uses a JS + React frontend with a Python + Flask backend for a modern, accessible, and reliable web service.

CAPTION IT – PYTHON, TENSORFLOW

A multi-modal image captioning model that take's in a user's input image and returns an appropriate caption.

Uses transfer learning to incorporate EfficientNet CNN to encode images and transformer encoder-decoder to encode and generate captions.

Image captioning model pre-trained on Flickr30k dataset and fine-tuned on images of written work using Google Colab hardware acceleration.

MICROGRID AI – PYTHON, SPADE, PYMGRID, PYTORCH

Leading team along with faculty advisors to design intelligent agent software for power resource regulation in a microgrid environment.

Using contemporary deep learning network architectures, such as LSTMs to accurately forecast energy usage across buildings on campus.

Designing an agent communication protocol involving reasoning, decision making, and negotiation to effectively operate the microgrid environment

Incorporate relevant academic research through in-depth literature review of microgrids, power systems, artificial intelligence, and multi-agent systems.