Jai Veettil

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Summary

Iowa State University Electrical Engineering student having practical experience in software development, electrical design, and experimental research. I'm motivated by the possibility to keep learning, challenging myself, and expanding my capabilities. I'm seeking for a co-op or internship where I can contribute, learn from experienced engineers, and continue to advance.

Education

Iowa State University **Ames, IA**
Bachelor of Science in Electrical Engineering *Expected May 2028*

Work Experience

Design Solutions Inc Feb 2026 – Jul 2026
Electrical Engineering Co-op *Dubai, UAE*

- Maintained drawing registers, submission checklists, and reports across **10+ project packages** for hospital, commercial, and government facilities.
- Developed and revised lighting, power, one-line, and wiring drawings for a **government hospital in Oman** using **AutoCAD MEP, ZWCAD, and Revit (BIM)**.
- Interpreted **low-voltage distribution diagrams** (DB and SMDB) with senior engineers and placed emergency lighting and field devices in live project drawings.
- Ran DIALux 4.13 lighting and emergency lighting calculations for **5+ areas** using **CIBSE and SLL** guidance, while aligning electrical layouts with **BS 7671** requirements.
- Reviewed Bluebeam Revu markups with the drafting team, tracked revisions across concurrent projects, and supported authority submissions for **UAE government projects** and a project in **Saudi Arabia**.

UAE Food and Beverage Manufacturers May 2025 – Aug 2025
Artificial Intelligence and Machine Learning Intern *Dubai, UAE*

- Independently built an automated **3-stage data pipeline** (collect, clean, load) using Apify, Octoparse, Python, and SQL to gather business and regulatory data from **5+** websites and internal systems.
- Applied **3 QA checks** (category standardization, missing-field verification against original sources, duplicate removal) across **1,000+ records** before reporting to **50+ internal users**.
- Built **Python FastAPI** endpoints with user authentication and file uploads, and integrated the **OpenAI API** so staff could search business data directly instead of manually exporting it.

Iowa State University Oct 2022 – Apr 2025
Undergraduate Research Assistant, Dr. Chris Cornelius *Ames, IA*

- Analyzed **100+ polymer samples** using nuclear magnetic resonance (NMR, TopSpin), dynamic mechanical analysis (DMA), differential scanning calorimetry (DSC), and thermogravimetric analysis (TGA).
- Developed new polymer membranes for fuel cells and gas separation and compared their mechanical and thermal properties to evaluate performance.
- Sole electrical engineering student in a materials science lab; worked with chemists and calibrated instruments for consistent results.

Technical Skills

Design & Simulation: **AutoCAD MEP**, ZWCAD, Bluebeam Revu, DIALux 4.13, Revit (BIM), MATLAB, Simulink, PLECS, LTspice (SPICE), KiCAD, SolidWorks, Quartus Prime Design, QuestaSim
Standards & Compliance: BS 7671 (IET), CIBSE, SLL, DEWA guidelines, NEC, NFPA 70, IEEE, IEC
Programming & Data: Python (FastAPI, TensorFlow, PyTorch, Keras, OpenCV), C/C++, Verilog, Assembly (x86), Java, JavaScript, SQL, MongoDB, Node.js, React, OpenAI API
Instruments & Tools: Oscilloscopes, multimeters, microcontrollers, Raspberry Pi, Git, Linux, Apify, Octoparse

Projects

Facial Recognition System *Python, TensorFlow, Keras, OpenCV, MongoDB*

- Built a CNN pipeline to preprocess, train, and classify **1,000+ image samples**, comparing the performance of different image preprocessing methods and CNN architectures.
- Stored images, predictions, and experiment data in MongoDB so results could be compared across runs without retraining old models.

Price Monitoring and Analytics Platform *Python, SQL, Node.js, React*

- Sole developer of a full-stack platform, built during the UAE Food and Beverage internship, that scrapes, cleans, and stores live pricing data from online sources on an automated refresh schedule.
- Wrote the REST API, database layer, and React dashboard behind it, owning the pipeline from collection through trend analysis and price comparison views.