

Noah Bean

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Education

Oregon State University

Bachelor of Science in Electrical and Computer Engineering; Minor: Computer Science

Corvallis, OR

Sep 2022 – Dec 2025 (Expected)

– GPA: 3.80/4.0

– Activities: Tau Beta Pi, IEEE, Association for Computing Machinery (ACM)

Technical Skills

- **Programming Languages:** Python, C, C++, Verilog, MATLAB
- **Machine Learning:** TensorFlow, PyTorch, Computer Vision, Natural Language Processing
- **Hardware Design:** PCB Design, Embedded Systems, Digital Logic, Microcontroller Programming
- **Core Engineering:** Computer Architecture, Digital Signal Processing, Circuit Design, Power Electronics, Computer Networking, Linux
- **Mathematics/Analysis:** Linear Algebra, Statistics, Probability, Data Analysis

Experience

Hardware Failure Analysis Engineering Intern

Apr 2024 – Sep 2024

Intel Corporation

Hillsboro, OR

- Developed a transfer learning binary classification CNN using ResNet50v2, achieving 96% precision and increasing defect detection throughput by 30%.
- Created a multimodal anomaly detection autoencoder in PyTorch, improving defect detection reliability by 15%.
- Diagnosed and resolved 11+ hardware failure cases using IR cameras, oscilloscopes, soldering, and Keyence microscopes, reducing system downtime by 15%.
- Built a large language model (LLM) for predictive maintenance using LangChain, ChromaDB, and fine-tuned a LLaMA 3.1 model in PyTorch, improving diagnostic speed by 10%.
- Optimized CPU/GPU utilization by 20% through workload performance tests and developed a Python scan chain script for streamlined diagnostics.
- Collaborated with cross-functional teams to accelerate project timelines by 10% and enhance hardware platform performance.

Manufacturing Technician

Jun 2022 – Sep 2022

Retronix Semiconductor

Hillsboro, OR

- Assisted in the installation and setup of semiconductor equipment, supporting 10+ technicians in a cleanroom environment.
- Coordinated equipment movement and setup for 20+ installations, optimizing workflow and reducing downtime.
- Followed strict safety and cleanroom protocols, maintaining operational readiness and adherence to safety standards.

Learning Assistant

Sep 2020 – Jun 2021

Oregon State University

Corvallis, OR

- Tutored 150+ students in Derivative and Integral Calculus (MTH 251, MTH 252), providing individualized feedback and improving class performance by 10%.
- Graded assignments for over 300+ students across multiple classes, ensuring consistency and adherence to grading standards.
- Supported students in calculus, linear algebra, probability, and statistics through one-on-one and group tutoring sessions.

Projects

2-Channel Power Supply PCB Design

Jan 2024 – March 2024

PCB Design, Power Electronics

- Designed and developed a 2-channel power supply PCB with adjustable voltage (2-15V) and current (0-1.5A) outputs, suitable for powering a variety of electronic devices and testing applications.
- Integrated safety features, including over-voltage, over-current, and thermal protection circuits, ensuring operational safety and reliability.
- Used Kicad for schematic capture and multi-layer PCB layout, achieving a compact design optimized for heat dissipation and space efficiency.
- Tested and validated the power supply under various load conditions, ensuring stable and accurate output performance for real-world applications.
- Collaborated with team members to review design choices, optimize component selection, and ensure the PCB adhered to industry standards.

Embedded Weather Station with Machine Learning Prediction

May 2024 – Present

Embedded Systems, Machine Learning, Python

- Developed an embedded weather station using the STM32 microcontroller to collect temperature and humidity measurements through integrated sensors.
- Designed a machine learning model in Tensorflow Lite for real-time weather forecasting based on collected environmental data, improving prediction accuracy over traditional models.
- Implemented a user-friendly LCD interface to display current weather data and future predictions, allowing easy interpretation of the data in real time.