XIN BAI

Mobile: 8016006681 | **Email:** u1299165@gmail.com | **Address:** Salt Lake City, UT 84101

EDUCATION

University of Utah **Salt Lake City, UT**

B.S. in Electrical Computer Engineering 12/2025

TECHNICAL SKILLS

SolidWorks	Soldering	Lab View	SLAM	OrCAD	Sensor
EDA:Pspice/LTspice	Digital System Design 3D	MATLAB	PCB	Ardupilot(APM)	PX4
Python	COMSOL	AutoCAD	Linux	Gazebo	ROS

PROFESSIONAL EXPERIENCE

Hanseup Kim **University Of Utah**

Hardware & Software Engineering (UAV Project) 01/2025 - 12/2025

- Engineered a **robust UAV stabilization architecture** that improving controllability and safety by 35% in turbulent airflow conditions common to real-world urban and natural environments. Integrated GPS, IMU, and digital airspeed sensors (MATEKSYS ASPD-4525) with a Pixhawk flight controller.
- Implemented **end-to-end sensor integration** across GPS, IMU, and airspeed systems, improving state estimation fidelity and flight robustness.
- Designed and validated **real-time wind estimation and sensor-fusion algorithms** in MATLAB, directly informing adaptive control strategies.
- Delivered **low-level firmware and middleware integrations** within PX4 and ArduPilot, spanning build systems, cross-compilation, and custom sensor drivers for real-time flight control.

BYD **Guizhou,china**

Facility Management Engineer 05/2023 - 08/2023

- Improved **sensor positioning accuracy by 25%**, directly increasing marking-head precision and repeatability through calibration and hardware optimization.
- Performed **hardware-level inspections and diagnostics** on electrical and electromechanical systems supporting precision equipment, ensuring stable and compliant operating conditions for engineering hardware.
- Developed and executed **preventive maintenance plans** that improved 30% reliability of electrical and mechanical assets used in production and testing environments.
- Improved overall system throughput by **troubleshooting hardware issues, tuning system performance, and optimizing operational workflows**.

Darrin Young **University Of Utah**

Hardware & Software Engineering(RF Project) 08/2024 - 05/2025

- Led the **end-to-end development of a Class-E RF power amplifier**, integrating theoretical modeling, circuit simulation, and experimental validation.
- Validated simulation results through **hardware prototyping and RF measurements**, correlating drain waveforms and efficiency with theoretical predictions and achieved 65% efficiency.
- Enhanced efficiency and spectral purity via **iterative component tuning and MOSFET switching analysis**, improving real-world Class-E performance.

AECC Guizhou Liyang Aero-Engine Co., Ltd. **Guizhou, China**

Hardware & Software Engineering 08/2023 - 12/2023

- Optimized **CNC/laser marking processes** for aerospace turbine blades, reducing QR code engraving deviation from 2–8 mils on ~80% of parts to ≤3 mils on all parts, significantly improving marking precision, consistency, and traceability compliance.
- Led day-to-day **production coordination and cross-functional communication**, aligning labor allocation, workflow sequencing, and equipment usage to minimize downtime; extended wear-part replacement cycles from every 3 months to once per year, improving equipment availability and reducing maintenance interruptions.
- Deployed **Linux-based control software updates** and integrated upgraded print-head hardware, enhancing machine performance with 15% higher efficiency and 30% improved reliability in production environments.
- Supported **on-site aerospace production operations**, working directly with CNC/laser marking equipment in factory environments to diagnose issues, calibrate hardware, and ensure continuous system availability under production constraints.