JIAXI KEVIN SU

U.S. Citizen

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EDUCATION

Northeastern University — **Boston, MA**

May 2021 — *Bachelor of Science in Mechanical Engineering, Master of Science in Mechatronics* | **GPA** 3.87

PROFESSIONAL EXPERIENCE

Sep 2024 - Present — **Verve Motion,** *Robotics Engineer* — **Cambridge, MA**

- Key member in Verve's 'operational metrics' project, which aimed to extrapolate critical motions from exosuit sensor data. Designed and assembled electromechanical fixtures at a quick turn, performing on-site installation and data collection. Wrote analysis scripts in Python to deliver relevant metrics to the Product Team and board.
- Coded algorithms using encoder data to approximate the drivetrain state, developing tests and reports for validation - this firmware feature would be implemented in future exosuits for improving cost and user safety.

April 2023 - Sep 2024 — **Volta Labs**, *Systems Engineer* — **Boston, MA**

- Led the design of the Volta instrument's reagent-cooling subsystem, from the sourcing of components, to design verification, to electrical integration into the machine. Tuned control parameters to meet cooling specifications, performed numerous experiments and design reviews, collaborated with Volta's mechanical team for thermal improvements to machined parts, and wrote accessible code to allow the biology team to control the subsystem.
- Owned the cabling for Volta's instrument prototype and commercial instrument - used PCB files, component datasheets, and an understanding of the system architecture to design over 50 cables in Altium Designer. Worked with vendors to deliver cables at quick turn. Modified cable designs and shielding for FCC compliance.
- Supported firmware, software, electrical, and biology team by preparing test stands, performing board rework, assembling prototype test circuits, writing technical documentation, and debugging Volta's instruments.

May 2021 – March 2023 — **Liteboxer**, *R&D Engineer* — **Charlestown, MA**

- Developed product concepts and features by designing and implementing test circuits and fixtures, custom PCB boards, 3D printed parts, and works-like prototypes. Hand-made custom sensors at a fraction of quoted cost.
- Investigated a prevalent error mode within the Liteboxer detection algorithm - characterized the error through data analysis and physical testing, created test scripts in Python, and reported findings to Liteboxer's firmware engineer to collaborate on implementing a firmware solution. Customers reported a positive difference.
- Prototyped and developed motion detection algorithms from accelerometer, gyroscope, and magnetometer data, ported the code into C libraries, and generated live graphical demos using Processing IDE for presentation. Utilized signal processing tools, including complementary, lowpass, highpass, 1D Kalman filters, and open source sensor fusion libraries.

Jan 2019 – July 2019 — **GenOne Technologies LLC**, *Product Development Engineer* — **Cambridge, MA**

- Conceptualized, modeled, and fabricated an electromechanical prototype for a Bluetooth and RFID motorized security system; built an app on Android Studio to communicate with the circuit via Bluetooth Low Energy.
- Produced industrial designs for a wearable device using OnShape and Blender to be presented to clients, making revisions based on feedback. Fabricated looks-like silicone prototypes by designing multi-part molds.

PROJECT EXPERIENCE

Nov 2024 - Present — **Plant Lux Meter**, *Personal Project*

- Developing a low-cost illuminance logging device. Prototyped basic circuit with light sensor data logging to an SD card using Nordic's SDK. Currently building out GUI in PyQT5 for data visualization.

Mar 2018 — **Bluetooth Light Switch**, *Personal Project*

- Prototyped nitinol-based and motor-based electromechanical solutions to toggle a light switch through Bluetooth and capacitive touch. Designed a custom PCB in EAGLE and assembled the fabricated board.

SKILLS

Skills: Electromechanical design, CAD, rapid prototyping, sensor integration, cable design, root cause analysis and debug, PCB design, experimental design, data analysis, technical writing, signal processing, industrial design

Languages / Applications: Python, C, C++, SolidWorks, OnShape, Arduino, Raspberry Pi, Blender, Altium Designer (Cable Harness tools), EAGLE, Matlab, Processing IDE, Zephyr RTOS

Equipment: Power tools, oscilloscope, soldering iron (SMD, through-hole), 3D printing (SLA, FDM), sensors