Kevin (Shilin) Yuan yuankev@umich.edu| (734) 717-4335 | Ann Arbor, MI

EDUCATION

University of Michigan, Ann Arbor **Graduating May, 2028**
Double Major: ***B.S, Computer Engineering and B.S, Robotics Engineering*** **GPA: 3.91/4.0**

- Classes: Electrical Circuits; Programming & Data Structures; Systems Engineering MBSE; Human Robotics System; Signals; Dynamics & Vibrations
- Dean's List; University Honors; William J. Brainstorm Award

WORK EXPERIENCE

Nupeak Robotics **Vancouver, BC**
Embedded System Engineering Intern | *May, 2025 – Aug, 2025*

- Designed multiple iterations, assembled, and tested **6 PCBs** (**200+** components, 4 layers) using **KiCad**
- Wrote embedded firmware, enabling **SPI** and **I²C** communication with peripheral sensors and actuators (haptics)
- Developed multiple iterations of interactive UI for TFT Displays with **SquareLine Studio**
- Deployed **ROS Noetic** nodes on **RP2040** microcontrollers in **C/C++** under **Linux OS**

PROJECT EXPERIENCE

University of Michigan Electric Boat **Ann Arbor, MI**
Embedded Hardware Lead | *September, 2025 – Present*

- Led design of cockpit and telemetry boards in **Altium** using **STM32F4** for high-speed D-Stock boat racing application
- Designed a two-layer **rigid-flex** cockpit PCB with low-noise routing, **multi-rail power management** (48V–3.3V), and **BJT-based HV/LV LED** indication
- Ensured telemetry board reliability through **impedance-matched GPS antenna trace** routing, **optocoupled CAN bus isolation**, and strategic layout for the signal integrity of noise sensitive element (**CANL/H**, Antenna)

Steering System Lead | *August, 2024 – September, 2025*

- Led the engineering of a lightweight and reliable hydraulics power **steering and trimming system** tailored for **130+ mph** tunnel hull boat maneuvers
- Gained extensive hands-on experience with **OnShape, AutoCAD**, **3D printing**, **TIG welding** & **hydraulic hardlining**

Siemens Space Robotics Project x University of Michigan - x88 Program **Ann Arbor, MI**
Software Engineer | *September, 2025 – Present*

- Tested OpenArm functionality through **CAN** and authored SOPs for software test and verification procedures
- Developed **SysML** requirement, block definition, and internal block diagrams in **Cameo/MagicDraw** to capture system architecture, interfaces, and functional decomposition; maintained requirements traceability and requirement-to-verification mappings
- Supported SRR and PDR through MBSE artifacts, requirements verification mapping, **technical risk identification/mitigation tracking**, and failure mode & **root cause analysis**

RESEARCH EXPERIENCE

Atombot Research Team, by ZLab at University of Michigan **Ann Arbor, MI**
Embedded Hardware Engineer | *January, 2025 – Present*

- Designed and iterated **RP2350B SoM board** for robot joint actuator control with focus on signal integrity optimization
- Implemented **ground plane stitching**, **controlled impedance differential pairs** with length matching, and proper **power/ground plane isolation**

Machining Manager | *March, 2025 – Present*

- Oversee, process and organize all manufacturing processes and machines of **10+** subteams
- Automated 3D printing workflows in **Notion** and helped to build and improve the **DMC2 Mini Mill**
- Practical experience in **Vat Polymerization** and **FDM** 3D printing

CERTIFICATIONS, SKILLS & INTERESTS

- **Languages:** English (Bilingual); Mandarin (Bilingual); French (Limited Working Proficiency)
- **CAD/Software:** Altium; KiCad; LTSpice; OnShape; AutoCAD; Solidworks; SiemensNX (FEA); STAR-CCM+; NX NASTRAN; CATIA MagicDraw; Illustrator; Bambu Studio; Preform; Arduino IDE; Waveforms
- **Programming:** C++; C#; MatLab; ROS (noetic); Git; Julia;
- **Manufacturing:** Mill; Lathe; Aluminum & Steel TIG Welding; 3D Additive Printing; Resin Printing
- **Interests:** Basketball; Golf; Poker; Graphics Design; Drawing; Climbing