

# Ashwin Kuppahally

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## EDUCATION

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### The University of Texas at Austin

Austin, TX

*Bachelors of Science, Electrical and Biomedical Engineering*

Aug. 2024 – May 2028

- Rising Junior - Combined Masters Program
- Biomedical Instrumentation and Imaging + Computation Degree Track
- Coursework: Computer Architecture, Network Analysis, Biomedical Design
- GPA: 4.00/4.00

## EXPERIENCE

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### Electronics Team Member

Sep 2024 – Present

*Longhorn Racing Electric*

Austin, TX

- Designed high-voltage circuit boards for car charging
- Wrote firmware for embedded circuits enabling car power systems
- Managed safety systems for battery control

### Engineer and Product Developer

Aug 2024 – Present

*All Eyes*

Austin, TX

- Designed affordable phoropter to increase eye-health availability
- Worked on patented liquid lens system
- Developed electronics for automated prescription checker

### Schnitzer Lab Research Intern

Dec 2022 – Sep 2023

*Stanford University Medical Research*

Palo Alto, CA

- Created direct brain interface PCB for mice experiments
- Designed and manufactured experimental microscope for imaging neurons
- Presented work to researchers and iterated designs

### Education Assistant

May 2023 – Aug 2024

*Maker Nexus*

Sunnyvale, CA

- Taught over 500 elementary school children STEM classes in electronics, 3D design, and woodworking
- Design curriculum for summer courses
- Served underprivileged communities with free classes and events

## PROJECTS

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### Blood Assay Analysis Device | *KiCad, Fusion360*

March 2024 – Present

- Ground up blood analysis device to test assays of at-home hemodialysis patients
- Includes a sample retrieval cartridge as well as a fully enclosed microfluidic testing array for 4 common blood tests involved in assessing hemodialysis effectiveness

### AI Powered Wearable Training Device | *KiCad, Fusion360, 3D Printing, Arduino*

May 2023 – Sep 2023

- Wearable smart device with custom PCB and sensors with Bluetooth telemetry connectivity
- Estimates VO2 max based on blood oxygen and heart rate
- Provides training feedback to user with deep learning algorithm

### The North American Regional Carbon Flux Model | *TensorFlow, Keras, Anaconda*

Dec 2020 – Jan 2022

- Predicts carbon flux using environmental data and historical trends
- Utilizes neural network and advanced data sourcing to perform analysis
- Research completed with the Environmental Engineering Department at NASA

Other projects: [ashwink.org/projects](https://ashwink.org/projects)

## TECHNICAL SKILLS/ACHIEVEMENTS

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**Skills:** 3D design (CAD), PCB design, FPGA, embedded systems software, wireless chip communication/telemetry, circuit analysis, metal CNC, 3D printing, electronics manufacturing, finite element analysis, fluid dynamics, structural design, composite materials, machine learning

**Achievements:** Synopsys Research - 4th Place in state, USAYPT - Schwartz Award, FRC Robotics - Engineering Award+International Qualification, TEAMS - National Qualification