

Aarav Sane

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🎓 Education

Bachelor of Science in Computer Science, University of California, Riverside ↗
GPA: 3.94

2021 Sep – 2025 Jun
Riverside, USA

📘 Relevant Courses

- Embedded Systems - CS120B, University of California Riverside**
- Virtual Reality - CS135, University of California, Riverside**
- Data Structures and Algorithms - CS141, University of California Riverside**
- Operating Systems - CS153, University of California Riverside**
- Computer Architecture - CS161, University of California, Riverside**
- Mathematical Foundations of Machine Learning - MATH161, University of California, Riverside**
- Introduction to Machine Learning - CS171, University of California Riverside**
- Natural Language Processing - CS173, University of California, Riverside**
- Applied Deep Learning - MATH259, University of California, Riverside**

💼 Professional Experience

Undergraduate Researcher, Wang Bioinformatics Lab

- Developed a method for predicting MS3 fingerprints using Machine Learning techniques
- Map fingerprints of MS3 spectra for each MS2 peak back to substructure fingerprints of original molecule
- Compare predicted fingerprint to known fingerprint of SMILES of MS2 precursor ion, which can determine the substructure of the MS3 precursor ion

2023 Apr – Present
Riverside, USA

Software Engineering Intern, Harbinger Motors Inc.

- Develop an IPC display system that processes and visualizes over 300 CAN signals from various ECUs, enhancing interface functionality and user experience
- Design and implement a centralized UDS service for flashing and diagnostics over CAN and Ethernet while abstracting communication protocols for the user
- Engineer an inhouse tool that uses the UDS service to allow seamless ECU flashing and diagnostics from a GUI
- Achieve a 20% improvement in memory usage and reduce runtime through object-oriented programming techniques.
- Leverage Docker to run Linux-compiled seed-key algorithms natively on Windows, improving cross-platform compatibility and operational efficiency
- Help in the development and testing of ECU flashing via VCU routing of package data
- Develop and complete a proof of concept (PoC) for a new vehicle display system, utilizing Structured Text and Free Body Diagrams, within 3 weeks

2024 Jun – 2024 Sep
Garden Grove, USA

Machine Learning Intern, Excellon Software

- Developed versatile and generic pipeline for ETL, and ML tasks with advanced features and model techniques
- Leveraged **MLFlow** properties for efficient model tracking and maintenance
- Engineered effective ML solutions for complex forecasting tasks, achieving robust results through tailored algorithms and ensemble techniques
- Researched and utilized various libraries such as **scikit-learn** and **PyCaret** for automation of ML tasks
- Built generic **API** to ingest data from various sources, reducing 10+ hours of manual work
- Optimized models by efficient hyper-parameter optimization techniques such as **Tree-Parzen Estimations** to improve training time by upto 30%
- Helped initiate the development of a voice-activated method for executing user-defined commands using **OpenAI's whisper library**, which provides support for over 10+ languages

2023 Jul – 2023 Sep
Pune, India

Software Engineering Intern, Engineers For Good	2022 Nov – 2023 Jun Remote, USA
<ul style="list-style-type: none"> Work with a team of developers to build an applicant tracking software and database with Microsoft Power Apps for a non-profit animal shelter organization Use Dataverse to create views to query 500+ organization records and 1000+ Person records Integrate Dataverse with Power Pages to provide easier-to-access updates on candidates progress reducing 10+ hours of manual work per week 	
Computer Science Grader, CSE, Bourns College Of Engineering, UCR	2023 Sep – 2025 Jun Riverside
<ul style="list-style-type: none"> Grader for CS171 <ul style="list-style-type: none"> Grade coursework (homeworks and exams) for 60+ students for the Introduction to Machine Learning class Grader for CS141 <ul style="list-style-type: none"> Grade coursework (homeworks and exams) for 150+ students for the Data Structures and Algorithms class Grader for CS119L (Algorithmic Programming and Problem Solving) <ul style="list-style-type: none"> Curate weekly competitive coding problem sets for practice for students Regularly attend classes and clarify doubts and issues with code 	

📁 Projects and Volunteering

Captain, UCR Mens Tennis Team	2024 Aug – Present
<ul style="list-style-type: none"> Lead practices and organize team bonding activities Lead team strategy discussions and provide feedback to coaches Attend Student-Athlete Advisory Committee (SAAC) meetings as Mens Tennis team representative 	
Driver Interface Lead, UCR Solar Car Team	2022 Jun – Present
<ul style="list-style-type: none"> Manage 8+ developer team to create and maintain driver interface with QT C++ to display realtime vehicle information and manage vitals Integrate PiWiring to allow for electrical interfacing to receive inputs from actuators to trigger QT Slots and Signals Engineer wireless telemetry to handle 120+ payloads per minute to display analytics through InfluxDB & Grafana Assemble Raspberry Pi & Arduino CAN BUS communications system to reliably & quickly process vehicle events Specifically worked on creating tire pressure system, boot-up checks, improving code readability, setting up wireless telemetry system Technical Skills: Python (poetry), Qt, GitHub, C++, Linux tools, Git, InfluxDB, Grafana Soft Skills: Teamwork, Time Management, Communication, Presentation skills, Logical and Analytical Thinking. 	

Secretary, Association for Computing Machinery @ UCR	2023 Mar – 2024 Apr
<ul style="list-style-type: none"> Look after membership management and engagement with the global ACM chapter. Logistics coordination for events and ensuring smooth operations Handling backend operations and administrative tasks 	

🧠 Skills

C++ | Python – Pandas, Numpy | Javascript | Machine Learning | Linux | Docker | MySQL | Git/Github | AutoML | PyCaret | NextJS | Tensorflow/PyTorch

🧩 Extracurriculars and Awards

UCR Mens Tennis Team, University of California Riverside	2021 Sep – 2025 Jun
Chancellors Honors List, University of California, Riverside	2024 Jun
ITA Scholar Athlete, Intercollegiate Tennis Association	2024
Chancellors Honors List, University of California, Riverside	2023 Jun
ITA Scholar Athlete, Intercollegiate Tennis Association	2023
ITA Scholar Athlete, Intercollegiate Tennis Association	2022
Student of the Year Award, The Orchid School	2018 – 2019
Workshop Lead - C++ GUI Programming with Qt Creator, Citrus Hack 2022	2022