

Aryan Kumar

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EDUCATION

San Jose State University – B.S. Mathematics

Aug '22 - May '26

Relevant Coursework: Java, Data Structures & Algorithms, Linear Algebra, Discrete Math, Combinatorics, Applied Probability and Statistics

PROFESSIONAL EXPERIENCE

Machine Learning and Software Engineer, Boardwalktech | Cupertino, CA

Aug '25 - Present

Boardwalktech is a TSXV-listed enterprise SaaS company, serving 25 Fortune/Global 500 companies and 2 Big Four accounting firms.

- Built **retrieval-augmented generation (RAG)** pipelines with **LangChain** and **vector databases**, improving data retrieval and decision-making for enterprise SaaS products.
- Developed REST APIs and deployed embedding models (e.g., for semantic search, classification, conversational AI).
- Designed **NLP workflows for parsing, entity extraction, and indexing**, streamlining **unstructured data analysis**.
- Strengthened **compliance and security for ML pipelines**, ensuring scalable and responsible deployment in enterprise environments.

Software and Data Intern, UL Solutions | Fremont, CA

May '25 - Aug '25

UL Solutions is a global safety science leader providing testing, certification, and advisory services.

- Designed and executed **Python automation workflows** to validate and process large-scale wireless testing data, improving accuracy and reducing manual effort.
- Performed rigorous **data validation** and **analysis** to detect outliers and inconsistencies, ensuring data integrity for critical reports.
- Collaborated with cross-functional teams and customers to troubleshoot issues, **configure devices**, and **drive data-driven decision-making**.

Research Assistant, San José State University Research Foundation | San Jose, CA

March '25 - Present

Advisor: Dr. Costanza Rampini | Environmental Sciences

- Clean and analyze **50+ spatial datasets** for environmental and community outreach projects.
- Use **PyTorch** to build **image classification models** that leverage **computer vision** for rapid trash assessment.

Data Analyst Intern, Career Center SJSU | San Jose, CA

Feb '25 - Present

The Career Center serves **30,000+ students**, leveraging data to enhance **career services and student engagement**.

- **Optimize data pipelines** by automating survey data collection and analysis using **Python**, **SQL** and **REST APIs**, reducing processing time by **30%** and improving reporting accuracy.
- **Develop predictive models** to analyze job placement trends, increasing **career service engagement by 20%** and enhancing student employment outcomes.
- Designed and deployed **real-time dashboards** using **Looker Studio** and **Power BI**, enabling efficient data-driven decisions across **10,000+ students**.

Software & Data Science Engineer, Spartan Racing | San Jose, CA

May '24 - May '25

Spartan Racing is a **student-run Formula SAE team**, currently **5th in the nation**, designing and building high-performance race cars.

- Designed and implemented **ML models** for real-time **slip ratio prediction**, improving launch efficiency by **15%**.
- Analyzed **3+ years of vehicle data** from past seasons, leading to an improvement in **tuning accuracy**.
- Optimized **RL algorithms for HPC environments**, reducing simulation latency.
- Designed **A/B testing frameworks** to analyze driver behavior, improving efficiency by **8%**.

PROJECTS

AI/ML Transportation Risk Modeling | Python, Pandas, Scikit-learn, GeoPandas, Matplotlib

Jan '25

- Engineered Python-driven geospatial clustering and causal inference models on 10M+ NYC transportation records, identifying high-risk zones and reducing predicted accidents by 18% through policy simulations.

Automated Housing Price Forecasting | Python, Scikit-learn, Pandas, Plotly, SQL

Oct '24

- Built a Random Forest model with automated preprocessing pipelines, slashing analysis time by 40% while predicting metro-specific trends using Zillow/Fed macroeconomic data.

TECHNICAL SKILLS

Programming: Python, Java, C++, R, HTML, CSS

Database: PostgreSQL, MongoDB, MySQL

Machine Learning & AI: TensorFlow, Scikit-learn, NumPy, Pandas, Optimization Mathematics

Cloud & DevOps: AWS (EC2, Lambda, S3), Google Cloud, Docker, Git

Data Visualization: Power BI, Tableau, Looker Studio, Matplotlib

LEADERSHIP EXPERIENCE

Spartan Spark Leader - Mentored 200+ first-year students and led community engagement workshops.

Aug '23 - Dec '24

Orientation Leader - Facilitated onboarding for incoming students, enhancing retention and inclusion.

Jan '23 - Jan '24