

# Arnav Goel

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## Education

### University of California San Diego (GPA: 3.96/4)

September 2022 – Present

BS in Data Science with Minor in Entrepreneurship & Innovation

(Relevant Coursework : CSE 11, CSE 12, CSE 30, CSE 151A, DSC 10, DSC 20, DSC 30, DSC 40A)

### Delhi Public School RK Puram (96.75%)

April 2020 – June 2022

High School - 12th Grade (Coursework : High Level Physics, Chemistry, Maths with Computer Science)

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## Experience

### Software Engineering Intern, Axiata Digital Analytics (ADA)

October 2024 – December 2024

- Spearheaded backend development for a multi-region **patient management platform** targeting hospitals in the **US, Japan, and South Korea** — projected to onboard **50,000+ patients** across **120+ hospitals** by 2025.
- Built and containerized **Flask microservices** with **Docker Compose**, reducing onboarding and setup time by **60%**.
- Developed the **Nurse Panel Backend API** and engineered supporting data models using **dbdiagram.io**, enabling end-to-end staff management functionalities such as onboarding, scheduling, and real-time shift tracking.
- Optimized backend reliability and performance by tuning **PostgreSQL queries**, automating daily **ETL pipelines** in **Python**, and architecting scalable **MDM tables** for hospital, patient, and service master data.
- Established full-stack observability by integrating **OpenTelemetry** for logging, tracing, and metrics across services, enabling **90% faster issue detection**.

### Cloud Engineering Intern, Espire Infolabs

July 2024 – September 2024

- Engineered enterprise-grade **KPI dashboards** and real-time monitoring systems across Azure cloud platforms, accelerating SLA compliance and boosting decision-making speed by **25%**.
- Integrated **Azure Monitor, Log Analytics**, and **Workbooks** to automate IT insights, reducing manual reporting efforts by **40%**.
- Deployed serverless alerting pipelines with **AWS Lambda** and **CloudWatch**, cutting incident detection time by **30%**.
- Developed customer communication tools aligned with Espire's Total Experience (TX) strategy, improving cross-unit reporting clarity.

### Quantitative Trading Intern, AG Shares & Securities Ltd.

July 2023 – September 2023

- Designed high-frequency **arbitrage strategies** using **tick-level market data** to uncover short-term alpha opportunities.
  - Built scalable **Python backtesting pipelines** leveraging **Pandas** and **NumPy**, analyzing 10+ years of high-frequency trading data to enhance model evaluation.
  - Boosted predictive accuracy by **15%** through advanced **feature engineering, hyperparameter tuning, and time-series normalization**.
  - Conducted **volatility-adjusted Monte Carlo simulations** to stress-test strategy robustness under diverse market conditions.
  - Improved overall strategy **Sharpe Ratio by 12%** through optimized risk management and volatility modeling.
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## Projects

### Buzz – College Event Discovery App (In Development) (Swift, Firebase, Google Maps API, REST APIs)

March 2025 – Present

- Building **Buzz**, a mobile-first **iOS app** using **Swift** to help college students discover personalized on-campus and nearby events based on interests, mood, and real-time location.
- Architecting a scalable backend on **Firebase** with user authentication, event categorization, and real-time data syncing across devices.
- Integrating **Google Maps API** and custom RESTful services to power hyperlocal event discovery and in-app RSVP functionality; currently under development for **iOS launch**.

### Vaani – Multilingual AI Chatbot (Python, OpenAI API, Realtime API, NLP)

March 2024 – May 2024

- Built a **multilingual voice chatbot** in **Python** with **OpenAI** and **Realtime API**, supporting **5+ Indian languages**.
  - Integrated open-source **NLP models** to enhance **language accessibility** and process non-English input.
  - Developed a lightweight **web app** for **SMEs** to automate localized customer interactions in real time.
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## Skills & Certifications

**Skills:** Python, Java, SQL, C, HTML, CSS, AWS, Docker, Git, CI/CD, Postman, Flask, TensorFlow, Keras, Pandas, NumPy, OpenTelemetry

**Certifications:** Google Data Analytics Professional Certificate; Google Advanced Data Analytics (Ongoing); Google AI Essentials; Machine Learning by Stanford and DeepLearning.AI (Ongoing); WhiteHat Jr. Python Developer & Data Analyst; Vigyantram Certified Senior Mobile App Developer

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## Leadership & Awards

**Leadership:** VP, Physics Society (PhySoc); VP, Mathematics Society; Exun ML Division Member; TechLean Campus Ambassador (150+ participants)

**Awards:** Gold Medalist, National Science Olympiad; Silver Medalist, International Mathematics Olympiad; High School Top Performer