Arnav Kumar

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EDUCATION

***Georgia Institute of Technology**,* Atlanta, Georgia   May 2027
Bachelor of Science in Computer Science, Minor in FinTech. Faculty Honors Student.   GPA: 4.00 /4.00

Relevant Coursework/Clubs: CS1332 Data Structures and Algorithms, CS2110 Computer Organization & Programming, CS2200 Systems & Networks, CS3600 Artificial Intelligence, CS4641 Machine Learning, Executive Board @ Startup Exchange

EXPERIENCE

Software Engineer Intern   Jun 2025 ~ Aug 2025
JAC Recruitment   Tokyo, Japan
- Developed internal auditing software with Python and VBA to monitor an intranet of 2,500+ employees.
- Worked on the security detection and response team to optimize Data Loss Prevention (DLP) procedures through software deliverables. Cut manual DLP monitoring time by 3 hours per week for security team.
- Assisted in the migration to Microsoft 365 E5 for enterprise security, contributing to SIEM configurations.
- Trained Machine Learning (ML) and Natural Language Processing (NLP) models to automate compliance monitoring on high-volume intranet activity and third-party DLP logs.

Software Engineer Intern   Jun 2024 ~ Aug 2024
Social Innovation Japan   Tokyo, Japan
- Engineered novel features for the "mymizu" sustainability app and deployed them to serve 500K+ users.
- Wrote production-ready cross-platform ReactJS/React Native code with TypeScript, integrated various geocoding and developer APIs: Google Maps API for mapping features, App Store API for distribution.
- Collaborated with the CTO for code reviews and to merge my code via Git Pull Requests, ensuring seamless version control and reliable production deployment via CI/CD pipelines.

PROJECTS

QuickTern | *React Native, Google Cloud, Firebase, Python, Selenium, App Store API*   Nov 2025 ~ Present
- Developed a full-stack mobile app using React and Firebase that lets users browse internships and subscribe to alerts for new postings matching their preferences.
- Automated web-scraping of 5+ job boards with Selenium to aggregate internship listings, deployed as a scheduled job on GCP Cloud Run.
- Built a scalable notification system utilizing the Apple Push Notifications API through a GCP Cloud Run script to send hourly alerts to subscribed users, ensuring timely updates.

Soccer Dive vs Foul Classifier | *Python, OpenCV, scikit-learn, pandas, OpenAI API*   April 2025
- Awarded a sponsor prize at the Georgia Tech Data Science hackathon with this project. (1st place out of 49 teams in our track)
- Trained a random forest classifier model to distinguish fouls and dives from video footage.
- Leveraged the YOLOv8 pose estimation model to extract skeletal keypoints from footage and represent player movements as structured skeleton data, enabling the model to learn foul–vs–dive patterns with 91% accuracy.
- Leveraged RAG-based LLM models (Claude 4.5, GPT-4) to provide highly accurate human referee-like feedback and analytical insights to supplement model judgment.

EcoTokens | *JavaScript, Google Chrome API, fft.js, SciPy, PyTorch*   Feb 2025
- Awarded 2nd Place out of 20 teams with this project at EnergyHack @ GT.
- Conducted research on the effect of image compression via Fourier transformations on the accuracy of neural network image classifiers to deduce an optimum compression rate without quality loss.
- Developed a chrome extension which automatically compresses image uploads to LLMs to minimize input token usage without hindering output quality.

KayEcho.AI | *React, Flask, MongoDB, GCP, Anthropic API*   Nov 2024
- Awarded 1st Place out of 130+ teams with this project at Georgia's premiere AI hackathon: AI ATL.
- A full-stack web application that helps people network effectively at large events.
- Inspired by a [Stanford study](#) on agentic human interaction simulation, this application simulates professional interactions through LLMs supplemented with information and data from a LinkedIn API.

Footy Tic Tac Toe | *React Native, Firebase, Python, Selenium, Google AdMob API, App Store API*   Oct 2023 ~ Present
- Developed an iOS soccer trivia game with Python (data engineering) and React Native (front-end).
- Built and managed a comprehensive dataset of soccer players through web-scraping.
- Implemented real-time PvP gameplay using Firebase's Realtime Database with WebSockets for instant state sync.
- Integrated the App Store API and Google AdMob API for publication and monetization. **~85K users.**

TECHNICAL SKILLS

Languages: Python (Classical ML, Neural Networks, GenAI, TensorFlow, PyTorch, Flask, Selenium), Swift, Java, C#, C++, SQL (MySQL, PostgreSQL), VBA, JavaScript, TypeScript, HTML/CSS
Frameworks: React.js, Next.js, React Native, Node.js/Express.js, REST APIs
Databases & Cloud: Google Cloud Platform (GCP) & Firebase, AWS (S3, Lambda, SageMaker), MongoDB
Tools & Platforms: GitHub, Docker, Kubernetes, Conda, VS Code, Cursor, Jupyter, Vercel, Slack, Jira, Microsoft/Google Suite

ADDITIONAL SKILLS

Languages: Fluent in **English**; Working proficiency in **Japanese (JLPT N2)** and **Hindi**