Varun Warrier

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Education

Georgia Institute of Technology Aug 2023 - May 2027

Bachelor of Science in Computer Science – Artificial Intelligence & Devices Concentration

Minor in Computing & Business (Denning Technology & Management Scholar) *GPA: 3.85*

- Relevant Coursework: Data Structures and Algorithms, Design and Analysis of Algorithms, Objects and Design, Systems and Networks, Computer Organization and Programming, Database Systems, Machine Learning

Experience

HubSpot May 2025 – Aug. 2025

Software Engineering Intern *Cambridge, MA*

- Architected and launched backend functionality of an AI audio isolation service, utilizing Kafka-driven RPC endpoints, async workers, dynamic audio chunking, and real-time usage tracking and credit-spend limiting.
- Automated file-lifecycle hygiene by building cascading-deletion and orphan-prevention pipelines plus smarter thumbnail selection, trimming S3 storage by 4% and eliminating render-chunk errors in production.
- Strengthened infrastructure reliability by designing worker patterns with structured retry logic, containerizing FFmpeg workflows in Docker, broadening acceptance-test coverage, and enhancing logging and error tracking.

RoboJackets Jan. 2025 – Present

Software Engineer *Atlanta, GA*

- Spearheaded software development using ROS2 and C++ for Georgia Tech's University Rover Competition team.
- Developed control systems for operating rover in both teleoperated and autonomous mode, utilizing subsystems and sensors to collect and act on 7 different data metrics in driving, arm, and science operations modes.
- Participated in extensive code review and simulation with 15+ other members to ensure cohesive software.

Georgia Tech School of Computing Instruction Aug. 2024 – Present

Undergraduate Teaching Assistant *Atlanta, GA*

- Led weekly lab sessions for 40+ students in hands-on exploration of digital logic, assembly, and C programming.
- Supported a course with 700+ enrolled students by co-designing graded lab assignments, autograders, and detailed solution manuals, streamlining grading workflows and ensuring consistency across several different course sections.
- Assisted students through online tickets and office hours to ensure course schedule and minimize repeat questions.

Projects

CodeVerse

- Built a full-stack AI coding interview simulator, combining Flask, Monaco Editor, and Mantine with Gemini API to simulate a dynamic, voice-interactive interview environment, featuring real-time, bidirectional audio.
- Integrated RealtimeSTT library for low-latency speech input, and Google Cloud text-to-speech for voice output.
- Designed dynamic interview logic for real-time code evaluation, question adaptation, and contextual follow-ups.

Rentify

- Designed and implemented a peer-to-peer rental platform supporting item listings, bookings, and payments.
- Developed RESTful APIs using Django and PostgreSQL with an MVC architecture to support user authentication, inventory management, and transactional workflows.
- Created model validation, error handling, and data relationships to ensure platform reliability and consistency.

Q-Wordle

- Designed and implemented machine learning agents with three different approaches (Naive Bayes, Monte Carlo Tree Search, and Q-learning) to solve Wordle, achieving 97% accuracy and 3.8 average guesses with Q-learning.
- Developed custom Q-learning reward functions and leveraged NumPy for efficient training and policy convergence.
- Built preprocessing pipelines and statistical dictionaries for 370k+ word corpus to optimize training and inference.

Technical Skills

Languages: C, Java, Python, SQL, Swift, SwiftUI, CircuitPython, LC-3 Assembly
Tools: Git, S3, Docker, Kafka, Amazon SQS, FFmpeg, MySQL, Kubernetes, Jenkins, Grafana, cURL, Postman, GDB
Libraries/Frameworks: gRPC, OpenCV, Django, rOS, Dropwizard, NumPy, Matplotlib, Gemini, Javalin, JavaFX