Christian Sebastian Vargas

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EDUCATION

George Mason University   August 2023 – May 2027

Bachelor of Science in Computer Science (GPA: 3.90/4.00)   *Fairfax, VA*
- Earned Dean's List honors every semester.
- **Selected Courses**: Low-level Programming (C), Discrete Mathematics, Data Structures and Algorithm Analysis (Java), Linear Algebra, Computer Systems and Programming (C), Probability and Statistics (R), Data Mining (Python), Operating Systems (C), Mobile Application Development (Java / XML / Kotlin)

TECHNICAL SKILLS

Programming and Web: Java, Python, JavaScript, C, React, Node.js, HTML / CSS, Kotlin, XML, UI / UX, R, Swing
Data and AI: Google Agent Development Kit (ADK), NumPy, Pandas, scikit-learn, Leaflet, GeoJSON, OpenStreetMap
Cloud / Tools and APIs: Google Cloud, Firebase, Git / GitHub, AWS Lambda, OpenAI, REST APIs
Platforms and Security: Unix / Linux, Alexa Skills Kit (ASK), SHA-256, AES

SELECTED PROJECTS

Google DevFest Hackathon: GridWatch | *HTML / CSS, JS, Google ADK, Python, Firebase*   October 2025
- Led the frontend for a 4-person team to ship a real-time city dashboard (map + heatmap, incident list, print-ready report) that helps officials spot outages, traffic congestion, crime, environmental issues and emergencies to send aid.
- Coordinated integration with the AI outputs and public data feeds; simplified the UI so non-technical users can filter by severity and area in one click.
- Collaborated on product direction and organization; documented the UI contract for agent outputs; created mock data so the UI could be built in parallel before backend integration.
- Shipped MVP in 7 hours, placed 2nd overall and invited to present GridWatch to investors / VC firms during DC Startup and Tech Week
- **Website**: https://gridwatch.dev | **GitHub**: https://github.com/VargasChristopher/GridWatch

Spotify Music Recommendation System | *Python, NumPy, Pandas, scikit-learn*   August 2025
- Built a music recommendation system coded in Python while employing machine learning techniques such as content-based filtering and cosine similarity to suggest songs from each user's favorites.
- Optimized the system for scalability and responsiveness, implementing a model that can efficiently generate recommendations for large datasets in real time.
- Created online documentation, including clear inline code comments and a README file detailing setup, usage instructions and methodology.
- Maintained a well-structured GitHub repository for version control, fostering ease of collaboration, reproducibility and future scalability.
- **GitHub**: https://github.com/christiansvargas/recommendation-system

PatriotHacks: Apollo AI | *OpenAI API, ASK, AWS Lambda, HTML / CSS, JS, React / Node*   October 2024
- **Award**: First place in the "Most Likely to Become a Startup" category at PatriotHacks 2024 hackathon
- On a 4-person team, built an end-to-end platform that integrates Azure OpenAI GPT-4o mini with Amazon Alexa for intelligent responses and accessible document summarization.
- Prototyped a 3D-printed Echo Dot casing in CAD; engineered AI prompt / response flows; implemented Git-based change management; integrated the Alexa Skill Management API with the OpenAI API.
- **Devpost/GitHub**: https://devpost.com/software/apollo-ai-eqvxh3

PROFESSIONAL EXPERIENCE

Undergraduate Teaching Assistant – Data Structures   January 2025 – June 2025

George Mason University   *Fairfax, VA*
- Provided academic support for undergraduate students taking Data Structures by answering questions and facilitating discussions on an online message board, escalating complex issues to professors when necessary.
- Assisted during office hours, offering one-on-one guidance and clarifying course concepts such as trees and heaps.
- Proctored exams to ensure academic integrity and adherence to testing procedures; reviewed instructor drafts of programming assignments and provided actionable feedback prior to work dissemination.