

Ved Karia

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EDUCATION

Georgia Institute of Technology

B.S. in Computer Science / Concentration in Intelligence & Systems Architecture

Atlanta, GA

May 2027

Relevant Coursework: Designs and Algorithms, Linear Algebra, Data Structures and Algorithms, Computer Organization

Clubs and Activities: Investments Committee (Healthcare Analyst), Startup Exchange, Intramural Soccer and Basketball

EXPERIENCE

Oak Ridge National Laboratory

Computational Sciences Research Intern

Oak Ridge, TN

June 2025 - July 2025

- Designed REST Flask APIs for molecular dynamics simulation data to enable query outputs on simulation metadata through custom React dashboards
- Integrated Kafka into local research pipelines to stream dynamics simulation data from distributed compute nodes into a centralized processing platform, reducing batch latency by $\pm 8\%$
- Containerized molecular dynamics configuration, timesteps and pressure conditions, with Docker and deployed them on Kubernetes clusters (helm deployed) for reproducible simulations
- Supplemented Prometheus monitoring into Kubernetes deployments to track performance of molecular dynamics workloads and further ensure reproducibility

Virginia Tech Research Institute

Data Analyst

Blacksburg, VA

October 2023 - June 2024

- Conducted field visits to 12 locations in eastern West Virginia to assess the efficacy of compounded Semaglutide as a drug abuse remediation inhibitor
- Logged real-time data to a centralized platform built on AWS IoT Core with data stored and managed in Amazon PostgreSQL, allowing for the generation of live-tracking Tableau dashboards
- Analyzed learning models in AWS SageMaker using longitudinal health and survey data to identify recovering outcome rates (presented at Eli Lilly in Indianapolis)

Community Service & Outreach

CodeSWVA (codeswva.org)

Founder

Roanoke, VA

March 2022 - Current

- Lead a group of 21 members to bring accessible computing knowledge all across southwest Virginia
- Achieved over 200% membership growth (over 875 students helped), ranking as the fastest growing coding NPO organization across southwest Virginia for 2023 by [CBS](https://www.cbs.com/news/southwest-virginia-coding-npo/)
- Donations from Amazon, Figma, Verizon, and the State of Virginia, totalling over \$35,000

Georgia Tech K-12 STEM Outreach

Coordinator

Atlanta, GA

August 2025 - Current

- Host weekly workshops in Python and Java for 120 underserved students in partnership with Atlanta City Public Schools
- Design Python and Java curriculum and roadmap to implement across all Atlanta City Public Schools for high school programming classes

PROJECTS

City Map3D (citymap3d.netlify.app)

React.js, TypeScript, Three.js, Leaflet, OpenStreetMap API, Tailwind CSS

- Interactive web application that generates accurate 3D city models from user drawn polygons using real building data
- Built responsive UI with procedural texture generation and automatic height detection, allowing users to export the 3D models and diagrams

Financial Sentiment Analysis Platform

Python, React.js, JavaScript, NLTK, BERT

- Scraped and ingested financial text data from SEC filings (10-Q/K) and Bloomberg Terminal feeds, processing with Python (NLTK) for tokenization
- Built sentiment classification models using BERT to score financial disclosures, identifying positive/negative market signals

ADDITIONAL SKILLS

Programming Languages: Python, Java, JavaScript, SQL, R, Matlab, C++, HTML, CSS, C

Frameworks: React.js, Angular, Vue.js, Node.js, Django, Flask, Redux

Tools: PostgreSQL, Amazon Web Services (Cognito, EC2, Lambda), Linux, Firebase, Git