

# 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 (Co-Op)

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](http://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](http://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