

Abhinav Gorantla

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EDUCATION

ARIZONA STATE UNIVERSITY, Ira A Fulton Schools of Engineering

Tempe, AZ

Master of Science in Computer Science (CGPA: 4.0/4)

May 2025

- Coursework: Artificial Intelligence, Multimedia and Web Databases, Knowledge Representation and Reasoning, Database Management Systems Implementation, Data Intensive Systems for Machine Learning, Advanced Operating Systems.

VELLORE INSTITUTE OF TECHNOLOGY, School of Computer Science & Engineering

Vellore, TN, India

Bachelor of Technology in Computer Science and Engineering (CGPA: 8.94/10)

May 2023

- Key Coursework: Data Structures and Algorithms, Database Management Systems, Operating Systems, Computer Networks, Applied Linear Algebra, Artificial Intelligence, Machine Learning, Discrete Math and Graph Theory, Image Processing.

SKILLS

Web Technologies: NodeJS, ExpressJS, NestJS, ReactJS, FastAPI, Tailwind, Bootstrap, Salesforce, MongoDB, Google Firebase

Programming: Python, C++, C, Java, JavaScript, TypeScript

Other: Shell scripting, Pytorch, OpenCV, AWS S3, AWS EC2, AWS Sagemaker, Git, MySQL, Tensorflow, Deep Learning

EXPERIENCE

ARIZONA STATE UNIVERSITY

Tempe, AZ

Graduate Services Assistant

March 2024 – Current

- Working on developing an advanced algorithm to efficiently retrieve Skyscrapers in relational database systems.
- Serving as a full stack developer in the CausalBench project, a framework for causal analysis and machine learning benchmarking (Angular, FastAPI, S3, and PostgreSQL).
- Engineered an optimized backend architecture for the Skysong project to enhance data flow efficiency and boost server response time by 80%. Also reduced the cost of deploying the system by 30% by integrating AWS Sagemaker into the system design.

WEBKNOT TECHNOLOGIES PVT. LTD.

Remote

SDE Intern

April 2022 – June 2023

- Revamped API endpoints within the Palette project, achieving a notable 30% reduction in response times.
- Employed Jenkins to optimize the deployment workflow for full stack web applications, ensuring seamless delivery.
- Engineered a custom plugin for Sisense BI software, to display geojson data on a GeoJSON layer on maps rendered via DeckGL.
- Enhanced data flow efficiency of the DeckGL plugin within Sisense by optimizing JAQL queries, resulting in a 40% reduction in query response time and a more seamless user experience.

PROJECTS

Research Publications Analysis tool

- Proposed an architecture and built a research publications analysis tool for ASU. This tool was built as a web application which could fetch research paper information affiliated with ASU using SCOPUS APIs and perform a text analysis on their abstracts.
- Reduced the server response time by 80% and improved the user experience by integrating RabbitMQ message queues in the system. Tech stack used: ReactJS, NodeJS, Python-FastAPI, RabbitMQ, MongoDB, AWS S3, AWS Sagemaker, OpenAI APIs.

Multimodal Image Retrieval System using Advanced Feature Analysis and Search Techniques

- Developed a Python-based image retrieval engine encompassing feature extraction from Caltech101 dataset images, latent semantics computation, clustering, and classification. Employed Locality Sensitive Hashing to index image features, optimizing nearest neighbor searches and ensuring scalability for expansive image datasets.

Automatic Essay Grader using NLP

- Developed a comprehensive Natural Language Processing pipeline to extract cosine similarity, Latent Semantic Analysis, TF IDF scores, and Orthography features from essays, enabling accurate essay scoring using various Machine Learning Algorithms. Project documentation can be accessed [here](#).

The Weekly Edge Website (Full Stack Web Application)

- Built a back-end REST API with CRUD operations to post, edit, and view articles written by members at [THEPC - VIT](#). Maintained this MERN stack project for 1.5 years, introducing features like favoriting articles and a security question feature.

LEADERSHIP

THEP Journalistic Literature Club, Vice Chairperson

- Established and sustained a robust MERN stack application as the cornerstone of the club's online newsletter platform.
- Pioneered the creation of "The Almost Worthwhile Podcast" for our club, achieving an impressive audience of nearly 800 listeners during its inaugural month.

Fifth Pillar - Anti Corruption NGO, Editor-in-Chief

- Oversaw and directed a 50-member editorial team, responsible for the editing and publication of articles on our blog website.
- Innovated by introducing new content formats like "Law Talks," resulting in a remarkable 50% expansion in the club's social media and community outreach.