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: 3.89/4) *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 at EMIT Lab on a project for ASU Skysong under the supervision of Dr. Candan.
- Designed an optimized backend architecture to enhance data flow efficiency and boost server response time by 80%.
- Reduced the cost of deploying the system by 30% by integrating AWS Sagemaker into the machine learning workflow.

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

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.

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.

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.

AGCLI (A command line utility to update npm packages on a Github project)

- Employed Node.js, Commander.js, octokit.js, and the GitHub API to create a command-line utility. It efficiently updates npm packages in projects and initiates GitHub pull requests, simplifying version management and enhancing workflow automation.

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.

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.