Ananya Ananth

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EDUCATION

University of Utah, Salt Lake City, Utah, USA Aug 2024 – May 2026
Master of Science - Computer Science **GPA: 3.78/4**
Relevant Courses: Graduate Algorithms, Visualization for Data Science, Operating Systems, Computer Architecture

Nitte Meenakshi Institute of Technology, Bengaluru, India Aug 2019 – Jun 2023
Bachelor of Engineering - Information Technology **GPA: 9.27/10**
Relevant Courses: Data Structures, Machine Learning, Data Analytics, Distributed and Cloud Computing, Computer Networking

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, JavaScript, SQL, R, YAML.
Machine Learning & Artificial Intelligence: LLMs, ML, NLP, Transformers, Deep Learning (PyTorch), Retrieval Augmented Generation (RAG), IBM Watson, LangGraph, information retrieval, natural language processing, Generative AI, AutoGen
Data Science & Analytics: Pandas, NumPy, Matplotlib, Seaborn, SciPy, Scikit-Learn, Image Analysis, Predictive Analytics.
Cloud, DevOps & SRE: IBM Cloud, Google Cloud (GCP), AWS (Basic), Ansible, Docker, Kubernetes, CI/CD (Jenkins), Shell Scripting (Bash, PowerShell), GitHub, Git, CHPC, slurm scripting, reliability, on-call, automation, SLA/SLO/SLI.
Databases & APIs: Milvus DB, PostgreSQL, MongoDB, IBM DB2, REST APIs, open-source coding, distributed/parallel systems.
Software Development: Agile, Microservices Architecture, Next.js, Salesforce, Slack, FileNet, Jupyter Notebooks, Unix/Linux.

WORK EXPERIENCE

Data Science Research Assistant — Salt Lake City, Utah
John A. Moran Eye Center, University of Utah Health May 2025 – Present

- Developed a deep learning convolutional neural network (CNN–UNet) to detect early-stage diabetic retinopathy in AOSLO images.
- Achieved 97% accuracy by segmenting retinal vessel walls using advanced deep learning techniques**.**
- Reduced ophthalmologists' image review time by 40%, enabling faster and more accurate clinical decision-making.

Software Engineer — Bengaluru, India
International Business Machines (IBM) Jul 2023 – Jul 2024

- Built an AI-powered analytics tool using **FastAPI, ReactJS, and IBM WatsonX** to automate SQL query generation from natural language, reducing manual report generation time by over **70**%.
- Integrated **LLMs (Granite-20B, Mixtral-8x7B)** with **DB2** and **PandasAI** to enable real-time visualization and insights from large enterprise datasets, enhancing business decision-making efficiency by **60%.**
- **Tech Stack:** *Python, FastAPI, ReactJS, IBM WatsonX, PandasAI, LangChain, IBM DB2, JayDeBeAPI, Axios, HTML5, CSS3, D3.js, IBM Cloud, GitHub, Slack, Mural, ZenHub.*
- Reduced system downtime of large and secure IBM systems by 35% through automated **troubleshooting** and root cause analysis using **Python, Ansible, Grafana, and the ELK Stack.**

Software Engineer Intern — Bengaluru, India
International Business Machines (IBM) Feb 2023 – Jul 2023

- Built an AI-driven SRE Assistant using **IBM WatsonX and Milvus DB** to automate operational query resolution and enhance incident response efficiency.
- Improved team productivity by **50%** by integrating real-time **troubleshooting** support and Slack-based knowledge retrieval for SaaS operations.
- **Tech Stack**: IBM WatsonX, Watson Assistant, Milvus DB, Python, Slack API, IBM Cloud, RAG architecture, GitHub knowledge base.

PROJECTS

Travel Orb – Interactive Data Visualization Platform | University of Utah

- Developed a global tourism analytics dashboard using **React.js**, **D3.js**, and **Python (Pandas, NumPy)**, visualizing 100K+ records across 200+ countries through **interactive visualizations**, increasing user data exploration efficiency by **70**%.
- **Tech Stack:** Material UI, Emotion, TopoJSON/GeoJSON, rc-slider, React Router, Jest (testing), Web Vitals, GitHub Pages.

Graph Simplification & Visualization | Scientific Computing and Imaging (SCI) Institute, University of Utah

- **Developed an interactive graph compression tool using Python, Flask, NetworkX, and D3.js**, enabling real-time motif clustering based on Wasserstein distance and achieving **over 65% reduction in graph complexity** while maintaining structural integrity.
- **Tech Stack:** Python, Flask, NetworkX, pandas, scikit-learn, SciPy, D3.js, HTML, CSS, JavaScript, matplotlib.

AB Suite Canvas – Research & Development Project | Unisys Corporation

- Developed a **no-code web development platform**, enabling **non-coders to design and deploy web applications 70% faster** through a **drag-and-drop interface** with integrated **Bootstrap 5** and **dynamic template management** for agile website development.
- **Tech Stack:** Node.js, Express.js, MongoDB, Mongoose, GrapesJS, React.js, Bootstrap 5, jQuery, Handlebars (HBS), HTML, CSS, SCSS, and JavaScript.