

# ANSHITA SAINI

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## EDUCATION

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### Turing Scholar CS Honors, University of Texas at Austin

B.S Computer Science Honors, Minor in Business

- **Concentrations:** Machine Learning and Artificial Intelligence, Computer Systems
- **Honors Courses:** Data Structures, Algorithms, Concurrency, Operating Systems, Autonomous Driving, Programming Languages
- **Selected Courses:** Neural Networks, Natural Language Processing, Info Search & Web Retrieval, Cloud Computing

## EXPERIENCE

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### Machine Learning Lab at the University of Texas at Austin

Honors Thesis | 📅 Aug 2023 - Aug 2024 | 👤 Professor Sujay Sanghavi

- Improved multimodal retrieval performance with novel fine-grained approach using **OpenAI's CLIP** transformer model
- Developed unique fine-grained loss computation and implemented **Low-Rank Adaptation** fine-tuning in **PyTorch** for efficient zero-shot retrieval training on datasets 1/1000th the size of original training data
- Leveraged **Hnswlib** nearest-neighbor index for scalable and practical text-to-image retrieval system, evaluating standard recall metrics

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### Netflix

Software Engineering Intern | 📅 Jun 2023 - Sept 2023

- Reduced security risks and boosted developer productivity by automating promotional website deployments for new Netflix releases
- Developed provision workflow controller in **Go** and **Kubernetes** to automate domain registration and DNS record acquisition
- Enabled accessible and simple usage for Netflix studio teams through Slackbot interface and stored records of all network resources

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### Google

Software Engineering Intern | 📅 Apr 2023 - Jun 2023

- Improved Google Cloud Platform customer confidence in new project versions by providing a high-level overview of project improvements with automatic error summary notification feature
- Enabled all Error Reporting customers (e.g. Etsy, Snapchat) to quantifiably observe system health through email, Slack, and SMS notifs
- Provided foundational **C++** infrastructure for integrating notifications triggered by occurrences other than new errors

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### Meta (formerly Facebook)

Software Engineering Intern | 📅 May 2022 - Aug 2022

- Improved effectiveness of profile-guided optimizations for Facebook products (AdIndexer, Instagram)
- Developed matching algorithm and infrastructure in **C++** to determine valid parts of stale profile for newer versions of source code
- Verified algorithm on codebase with over 1 million lines of code, resulting in estimated capacity savings of \$25M over 1 year

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### Lockheed Martin

Software Engineering Intern | 📅 Sept 2020 - Jul 2021

- Used **Python**, **Docker**, and **GitLab** to analyze Big Data to find faults on laser systems
- Built **Beautiful Soup** web scraper to generate lead times for 1000+ parts reducing manual work by 60x

## PROJECTS

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### WARP: Web-Augmented Research Paper Q&A Engine | *Python, FastAPI, NextJS, TypeScript, Python*

- Developed intelligent question answering system that retrieves relevant information across a corpus of 100+ research papers
- Utilized **FastAPI** to serve queries, using **Pinecone** as a vector database for retrieval, and reranking with **Cohere Rerank**
- Supported tool use to dynamically select between web search or classic retrieval operations based on query complexity

## HONORS

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- **RippleX Founder Fellow:** Technical founder of **Offload**, an AI documentation search assistant for developer-facing products
- **Neo Scholar Finalist:** Recognized out of over 1000 applicants based on technical skills and entrepreneurial mindset
- **Coca-Cola Scholar:** Recognized out of nearly 100,000 applicants for leadership, service, and academics
- **NCWIT Aspirations in Computing WA Award Winner**

## SKILLS

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- Python, PyTorch, Postgres, JavaScript / TypeScript, React, Kubernetes, C++, Java, Go, Docker, NextJS, Git, LLVM