# Jinam Shah

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## EDUCATION

***Master of Science in Computer Science***, North Carolina State University *August 2021 – May 2023*

***GPA: 4.0***

***Relevant Courses***: High-performance Machine learning and Real-time AI, Neural Networks, Natural Language Processing, Artificial Intelligence-1, Automated Learning and Data Analysis, Design and Analysis of Algorithms, Software Engineering, Algorithms for Data Guided Business Intelligence.

## TECHNICAL SKILLS

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| ***Programming languages and tools:*** | Python, Pytorch, Tensorflow, Keras, Pandas, Django, Flask, Spark, SQL, Git, C, C++ |
| ***Domain Expertise***: | Machine Learning, Deep Learning, Natural Language Processing, Image Recognition, Distributed Training, Big Data |
| ***Cloud technologies:*** | AWS, GCP, EC2, ECS, S3, AWS Lambda, AWS RedShift, AWS Kinesis, AWS API Gateway, AWS CloudFormation |
| ***Design Principles:*** | Cost-effective, secure, reproducible, and reliable architecture design, Serverless architecture. |

## WORK EXPERIENCE

***Machine Learning Intern***, Cactus Communications, Princeton, USA *May 2022 – Present*

- Working on various **big data** problems and **pattern recognition** problems based on the company's datasets.
- Lead the **Machine learning track** for a project around **disambiguation of records** in a data lake.
- Created a truly serverless highly available API that orchestrates **~100K long-running requests** with **sub-second SLA**.

***Senior Software Engineer***, Cactus Communications, Mumbai, India *June 2020 – July 2021*

- Guided the **architecture planning** and implementation of various products in ML/NLP and BigData, **bridging the gap** between the business and tech teams.
- Designed a **data processing pipeline** for Machine Learning product with **cumulative 24K CPU cores, 48Tb RAM**, generating over ~4.5Tb of data in under 2.5 hours. This was executed at **1/5$^{th}$ of the proposed cost from AWS Big Data Team**.
- Designed and implemented a **BigData platform** that ingests over 1.5Tb/week and generates over 4.5Tb/week. It manages over ~250Tb of data in the data lake.
- Setup the best practices and implementation guidelines for the team to operate on Cloud across AWS, GCP and Azure.

***Python Developer***, Cactus Communications, Mumbai, India *June 2018 – June 2020*

- Reported and worked with **AWS S3 team** on **fixing bug** on prefix throughput.
- Designed and implemented products in the **image recognition** domain, leading the efforts in creating a **new business vertical** in the company.
- **Technology Champion** of the quarter award for creating a crucial **ML product** in under a week that scales with **zero downtime**.

## RESEARCH WORK AND PROFESSIONAL PROJECTS

***Author Name Disambiguation (Ongoing research)***

- Implementing **bias-free** author name disambiguation for research manuscripts and improving the state-of-the-art.
- Based on the research done by **AllenAI** on the same topic.

***Transformer-based Document Classification***

- Ensemble of DL and ML models (based on **BERT**) performing document classification for over an unprecedented **1500 classes** deployed using **serverless** architecture.
- Saved the organization around **$1M per annum** and reduced the TAT for the service from **8 hours to under 2 minutes** (down by 99.6%).

***Serverless Image Recognition***

- Image recognition software for determining **ethical compliance of images** added in research papers.
- Achieved state-of-the-art performance (**99.8% accuracy**) and deployed using **serverless** architecture.

***Automated Language Correction***

- Worked on the "**explainable AI**" portion behind an NLP software that focused on automated grammar correction.
- Led the efforts of building **scalable infrastructure and API** for the product.

## ACTIVITIES

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| ***Open source:*** | Contributor of AllenAI's S2AND and Specter repositories, consistent contributor through HacktoberFest. |
| ***Hackathons:*** | Top 25 percentile in Reply Code hackathon. |
| ***Volunteer:*** | AI4Good foundation, working on solving United Nations' Sustainable Development Goals. |