

# 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

**Programming languages and tools:** Python, 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, and reliable architecture design, Serverless architecture, Reproducible infrastructure

## 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<sup>th</sup> 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

May 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

**Open source:** Contributor of AllenAI's S2AND and Specter repositories, consistent contributor through HacktoberFest.

**Hackathons:** Top 25 percentile in Reply Code hackathon.

**Scholarship:** AWS Machine learning engineer scholarship by Udacity.

**Volunteer:** AI4Good foundation, working on solving United Nations' Sustainable Development Goals.