

SARANSH SHARMA

New Brunswick, NJ 08901

☎ 732-522-6180

✉ saransh1000@gmail.com

🌐 [linkedin.com/in/alcatrazxlr8](https://www.linkedin.com/in/alcatrazxlr8)

🐙 github.com/alcatrazxlr8

Education

Rutgers University

Sep 2022 – May 2024

Master of Science in Computer Science

CGPA: 3.79/4

Relevant Coursework: Data Structures and Algorithms, Artificial Intelligence, Database Management Systems, Machine Learning, Computer Vision, Computer Networks, Data Mining

Manipal University Jaipur

Aug 2018 – Jul 2022

Bachelor of Technology in Computer Science & Engineering

CGPA: 3.75/4

Technical Skills

Languages: Python, C++, JavaScript, Java, HTML, CSS, SQL, NoSQL

Skills & Technologies: Git, Linux, RDBMS, Docker, REST, MVC, MongoDB, ReactJS, CI/CD

Experience

Rutgers University - CS Department

Sep 2023 – May 2024

Teaching Assistant | CS419: Computer Systems Security

New Brunswick, New Jersey

- Mentored **150 students** - helping with the course material for the course **Computer Systems & Security** and assignments/projects under Prof. Paul Krzyzanowski

Teaching Assistant | CS461: Machine Learning Principles

- Taught **Machine Learning** concepts to **100 students** & helped them with doubts and their projects
- Improved class & recitation attendance by making the content more engaging and motivating students. Received excellent feedback from the students as well as Prof. Karl Stratos

VigilanceAI LLC

Jan 2022 – Apr 2022

Technical Intern

Remote (Deerfield, IL)

- Scraped, collected, generated & annotated data from various sources to fit the needs of the relevant task
- Collaborated with engineers & interns to learn & implement a CNN-RNN based model for object, activity & posture detection. Improved accuracy of the model by 10% via hyperparameter tuning & data pre-processing

Projects

RU-CloudNet | *C, P4, Networks*

- Built a “Cloud” network data plane, leveraging programmable switches to implement tenant-host network virtualization
- Implemented ARP & IPv4 packet forwarding between two fixed hosts
- Created address-space reachability & performance isolation by rate-limiting at the tenant level using metering

Answering the Unanswered: Overcoming Language Barriers in Question Answering

- Researched and improved **NLP** tasks for regional languages with limited data, focusing on Question Answering
- Leveraged multilingual models (mBERT, XLM-RoBERTa), augmented data (on top of the SQuAD & FLoRes datasets) & achieved substantial performance gains over baselines (TyDi QA containing 200k QnA pairs from 11 typographically diverse languages)

BuyMe - Auctioning Website | *Java, JSP, JVC, HTML, CSS, JavaScript, SQL, Development*

- Led a team of 3 developers to design & implement a web-based auction platform, facilitating real-time bidding wars with features like auto-bidding & bid notifications that encourage & improve user engagement
- Coordinated the full-stack development integrating **MySQL**, **Java** for the back-end, and JSP for a dynamic front-end

RU-TCP | *C, Networks*

- Designed a **TCP congestion control algorithm** that adapts & reacts to the amount of cross-traffic on the link
- Implemented as a **kernel module** & tested by using it as the Linux system’s primary TCP variant

Better, Smarter, Faster | *Python, Neural Networks*

- Circular graph environment with 3 entities - Agent, Prey, Predator - that try to find each other (Prey has probabilistic movement. Optimized the agent to catch the prey, the prey moves greedily towards the agent.
- Leveraged **Markov Chains** to determine utility (on basis of expected steps) to catch the prey
- Made a **Neural Network** from scratch and compared the results with the utility-based model and saw gains of 5%