

# Raunaq Jain

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## EDUCATION

University at Buffalo, SUNY, MS in Computer Science [GPA: 3.81/4] 08/2019 – 02/2021  
Maharaja Agrasen Institute of Technology, GGSIPU, B.Tech in Computer Science [CPI: 71.98%] 08/2014 – 05/2018

## TECHNICAL SKILLS

**Languages/ Frameworks:** Python, Java, Rust, Django, Flask  
**Databases/ Web Development:** SQL, MongoDB, HTML, CSS  
**Tools:** Git, Android Studio, Apache Solr, Docker

## EXPERIENCE

Intern, University at Buffalo 06/2020 - Present

- Artificial Intelligence in Ethnobotany (AIE)  
Developing an application in Flask to process and classify images and videos of plants in the field. Training a Single Shot Multi-Box Detector for detection of species of plants.
- Secure Storage for TrustZone  
Designing a secure file storage system by implementing a hash tree in Rust for Trusted Execution Environment (TEE). Performing software verification to verify removal of memory leaks and dangling pointers present in the kernel.

Machine Learning Intern, **Nulenta Private Limited** 12/2019 – 01/2020

- Spearheaded development of a resume parser in Django using REST API.
- Built an end-to-end solution to match and score job requirements with user profiles for automatic candidate selection.

Machine Learning Research Intern, **HypoThizer Technologies Private Limited** 07/2018 – 02/2019

- Contributed to a cloud-native document parsing platform that captures intelligence-ready data from documents.
- Improved accuracy of existing parser by **10%** through feature engineering and custom models.
- Architected, developed, and shipped Resume Parser with an average F1 score of 0.93 after training on 150 documents.

Research and Development Intern, **All India Council for Technical Education** [[Github](#)] 10/2017 – 03/2018

- Developed a web application in Django that utilizes machine learning to predict employment potential of universities, thereby enhancing AICTE's Approval Handbook.
- Cleaned, structured, analyzed and visualized data of 5 years in Python and developed interactive plots for user interface.
- Awarded **1<sup>st</sup> prize** (\$3000) in **Smart India Hackathon'17, MHRD, Govt. of India**, against 7400+ teams.

## PROJECTS

**Forums** 07/2020

- Developed a discussion board (a forum) with user authentication in Django (REST API).
- Set-up a web server to handle incoming requests and serve static content.
- Set-up a PostgreSQL database and a Unicorn application server.

**FEVER: Fact extraction and Claim verification** 02/2020 – 05/2020

- Developed an application in Flask to extract sentences from Wikipedia articles and check credibility of an input sentence.
- Indexed 185K sentences on Apache Solr and improved document retrieval system.
- Built a component to extract contextual similarity between two sentences.

**Distributed Systems Programming** 02/2020 – 05/2020

- Developed simple Amazon Dynamo, a distributed messaging system with fault tolerance and recovery of nodes in Android.
- Implemented a distributed key-value storage called chord ring for communication between nodes in Android.
- Built a multicast messenger chat application in Java using sockets in Android.

**Reinforcement Learning** 02/2020 – 05/2020

- Trained AWS DeepRacer locally and documented the procedure.
- Trained an agent to play Atari Breakout using OpenAI Gym and achieve the state-of-the-art results.
- Compared different policy-gradient methods on OpenAI Gym Cartpole environment.

**DogDogGo, Search Engine Application** [[Demo](#)] 11/2019 – 12/2019

- Built an end-to-end tweet search engine involving content ingestion, topic categorization, and analytics. Indexed 200K multi-lingual tweets using **Lucene Solr**. Hosted the application on Amazon Web Services (AWS) EC2 instance.
- Analyzed impact of political rhetoric in traditional and social media presented using interactive geospatial plots.
- Responsible for Solr management and backend development (REST API) to implement features like **tf-idf** ranking, pseudo relevance feedback, more like this, filter-based search, query translation, and search highlighting.