SETU DURGESH VINAY ANNAM

(480)-370-7965 | vinayannam97@gmail.com | (vinayannam) · GitHub | (vinayannam) · LinkedIn | (vinayannam.github.io)· Portfolio

EDUCATION

Arizona State University | Tempe, Arizona, USA
M.S. in Computer Science | GPA: 3.72 / 4.0 May 2021

- **Relevant Courses:** Data Processing at Scale, Data Mining, Mobile Computing, Natural Language Processing, Artificial Intelligence, Statistical Machine Learning, Software Security, Knowledge Representation and Reasoning, Theory of Computation

BML Munjal University | Gurgaon, Haryana, India
B.Tech. in Computer Science | GPA: 8.93 / 10.0 May 2019

- **Award:** 100% Scholarship on Tuition and Living.

SKILLS

Programming & DB:	**Python**, **Java**, **C/C++**, **Javascript**, Swift, Shell/Bash
Front/Backend Dev:	**Vue JS, HTML**, **CSS**, **Node JS, Django, PHP**, Backbone JS, JQuery, Flask, Firebase, AJAX, REST
Machine Learning:	PyTorch, Scikit, NumPy, Pandas, Matplotlib, Transformers, Tensorflow, Keras, Spacy, SkImage
Tools:	**Git**, **Docker**, **AWS**, **PostgreSQL, MySQL,** MongoDB, Hadoop/Spark, Linux/Ubuntu, OSX, Xcode

EXPERIENCE

Advinow Medical Ltd. | Scottsdale, Arizona, USA
Software Engineer Intern (Natural Language Processing Engineer) June 2020 - August 2020

- Developed a **NER tool** that extracts the symptoms from the articles, using **BERT** pre-trained models and **lexical analysis**.
- **Improved the F1 score to 80%** on the mapping of diseases using POS tagging and uniqueness based on contextual embeddings.
- Built **8 extensible python modules** facilitating automatic extraction, annotation, and mapping of the symptoms to the database.
- Built **microservices**, **data pipelines** in python that collectively assist doctors in **increasing** annotation pace **from days to hours**.

International Institute of Information Technology | Hyderabad, Telangana, India
Software Engineer Intern (Natural Language Processing Research) January 2019 - May 2019

- Conducted research, supervised by Dr. Radhika Mamidi under the title "**Anaphora Resolution for Telugu Dialogues**" 🔗.
- Applied deep learning and achieved a **state of the art for pronominal anaphora resolution** in Telugu dialogue systems.
- Developed software that annotates the anaphora of a noun phrase in the human spoken dialogues generic to any language.
- Achieved **state of the art working annotator and decoder** for Telugu language that **visualizes** the similar words like **wordnet.**

Tech Mahindra | Bangalore, Karnataka, India
Software Developer Intern June 2017 - July 2017

- Developed an open and scalable **full-stack web visualization application**, GraphBoards to track the issues in client services.
- Built scripts that detect and addresses similar issues that **impacted the reduction in manpower and increase in throughput.**
- Built a **RESTful API** for integrating the dashboards into legacy applications across different platforms.
- Built an Android app that actively notified the employers about the latest tickets, which **increased the view rate to 100%.**

ASU CIDSE | Tempe, Arizona, USA
Graduate Services Assistant August 2019 - Current

- TA/Grader for CSE 335 (**iOS Application Dev**) and CSE 205 (**Objective oriented programming and data structures**).

PROJECTS

Natural Questions | Topics in Natural Language Processing Jan. 2020 - May 2020
Technologies Used: BERT, Alberta, Longformer, PyTorch, Hugging Face, **Agave Cluster**

- Worked on Google's Natural Questions dataset for building **question answering systems** like google knowledge graph card.
- Explored the dataset applied **SQuAD** like data preprocessing methods and fine-tuned the BERT model for short answers.
- Implemented recall ranking model and Longformer model for long answer prediction and improved the **F1 score to 77%**.

Insurance Referee Assignment | Knowledge Representation and Reasoning Sep. 2019 - Dec. 2019
Technologies Used: Clingo, Answer Set Programming (ASP)

- Developed a clingo program that assigns referees to a task based on some weak and hard constraints set by the company.
- Used a minimization technique to **optimize the total payments** made by the company based on referee preferences.
- Explored several aspects of ASP and **declarative programming** in tackling constraint related problems with **planning**.

Code Reeve | Online Judge Software August 2018 - Nov. 2018
Technologies Used: Node Js, MongoDB, MOSS

- Developed Leetcode like scalable software which judges the coding assignments based on the test cases and plagiarism.
- The product went through all security vulnerabilities and was integrated into the university Learning Management system.

BMU Blockchain | Cryptocurrency Jan. 2018 - April 2018
Technologies Used: CLI, **Node JS, MongoDB**, **Distributed Systems**

- Developed a real-time blockchain application with a web server module for transactions and a CLI for mining the crypto coins.
- The blocks are secured by decentralization of transactions using **peer to peer network** and **proof of work.**

ACHIEVEMENTS

- Secured 2nd position at HackBMU Hackathon, for building an app that labels the **American Sign Language gestures using CNN**.