

SETU DURGESH VINAY ANNAM

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EDUCATION

Arizona State University | Master of Science in Computer Science | Tempe, Arizona, USA May 2021

- **GPA: 3.72 / 4.0**

BML Munjal University | Bachelor of Technology in Computer Science | Gurgaon, Haryana, India May 2019

- **GPA: 8.93 / 10.0**
- 100% Scholarship on Tuition and Living.

SKILLS

Programming & DB: Python, Java, C, C++, Swift, Javascript, Bash, Clingo, MySQL, SQLite, MongoDB, Firestore

Web Dev: Vue JS, Node JS, Django, Flask, PHP, Firebase, HTML, CSS, AJAX, JQuery

IOS / Android Dev: Xcode, Android Studio, MVC

ML / DL / NLP / CV: Pandas, Scikit, Matplotlib, NumPy, Keras, PyTorch, Transformers, Spacy, SkImage

Miscellaneous: Git, Linux, Data Structures, Algorithms, Software Security, Artificial Intelligence

EXPERIENCE

Adinow Medical Ltd June 2020 - August 2020

NLP Engineer Intern | Scottsdale, Arizona, USA

- Developed a **NER tool** that extracts the symptoms from the articles, using **lexical analysis**, **BERT** pre-trained models.
- Developed BERT based **contextual embeddings** to uniquely find the relationship between symptoms and diseases.
- Built extensible **python modules** facilitating extraction, annotation, and mapping of the symptoms to the database.

ASU CIDSE August 2019 - May 2020

Graduate Service Assistant | Tempe, Arizona, USA

- Worked part-time as a Grader / TA for CSE 335: Principles of Mobile Application Dev (iOS).

International Institute of Information Technology - Hyderabad January 2019 - May 2019

NLP Research Intern | Hyderabad, Telangana, India

- Conducted research under Professor Radhika Mamidi by 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.

Software Developer Intern June 2017 - July 2017

Tech Mahindra | Bangalore, Karnataka, India

- Developed an open and extensible **full-stack web visualization application**, GraphBoards to track the issues in client services.
- It has a collaborative, multi-channel infrastructure facilitates efficient onboarding and more effective developer engagements.
- Built a continuous delivery platform for Graphboards that provides detailed visibility of integration and deployment process.
- Built a **REST API** for integrating the dashboards into several core applications.

ACHIEVEMENTS

- Secured 3rd position in the final 'Capture the Flag' event conducted at ASU under the course Software Security (CSE545).
- Holds a patent under the tile, **System for Reducing Data Duplication**.
- Secured 2nd position at HackBMU Hackathon, for building an app that labels the **American Sign Language hand gestures using CNN**. The labels are used to generate dialogues, translated to native languages, and converted to speech.

PROJECTS

Natural Questions | Topics in Natural Language Processing January 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.
- Used recall ranking model and Longformer model for long answer prediction and received an **F1 score of 77%**.

Insurance Referee Assignment | Knowledge Representation and Reasoning September 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 given the preferences of the referees.
- Explored several aspects of ASP and **declarative programming** in tackling constraint related problems with little **planning**.

D*LITE Search Algorithm | Artificial Intelligence January 2020 - May 2020

Technologies Used: A* Search, Lifelong Search, D* Lite Search, Python

- Developed a python Pacman application, that automatically plans the win in the shortest path with the least processing.
- Applied Searching algorithms, **Markov Decision Processes**, **Q Learning**, and **Reinforcement algorithms** on the Pacman domain.

Coreference Annotator | NLP Tool February 2019 - June 2019

Technologies Used: Python, Tensorflow, Keras, Gensim, Dialogue Systems, Node Js, Vuetify, Vue JS

- Developed software that annotates the anaphora of a noun phrase in the human spoken dialogues.
- Achieved a state of the art working annotator and decoder for Telugu language that visualizes the similar words like **wordnet**.

Code Reeve | Online Judge Software

August 2018 - November 2018

Technologies Used: Node Js, MongoDB, MOSS

- Developed software which automatically judges the coding assignments based on the test cases provided.
- Analyzed potential exploits in the existing systems and rectified them in the application.
- Used MOSS API, which calculates the similarity of the code to detect plagiarism.

Chandler Chatbot | NLP, AI Personal Project

July 2018 - August 2019

Technologies Used: CNN, LSTM

- Working on a chatbot that mimics Chandler, a famous television fictional character from Friends, who was sarcastic.
- It is a small step towards the vision to immortalize a person's style of communication into an AI.

Insights - Sentiment Analysis | NLP, Personal Project

June 2018 - July 2018

Technologies Used: Spacy, NLTK

- Applied the NLP strategies and processed the text scraped from the insights articles and done extensive sentiment analysis.

Blood Dena | ERP System

March 2018 - April 2018

Technologies Used: PHP, MySQL

- A web-based app that monitors the requests and the donations of blood units. It includes a clustering module that analyses the blood requests based on location and causality.

BMU Blockchain | Cryptocurrency

January 2018 - April 2018

Technologies Used: CLI, Node JS, MongoDB

- A real-time blockchain application which has a server module for transactions which can be accessed through a browser and a CLI for the miners to mine the blocks encapsulating the crypto coins.
- The blocks are secured by decentralization of transactions using peer to peer network and proof of work.

Gate Pass | Design Solution

January 2018 - April 2018

Technologies Used: Android Studio, XCode, Sketch

- Developed an Android and IOS app for upgrading the manual gate pass system in the university into a system which synchronizes the passes based on their acceptance level by the parents and the wardens.

Feedback System | Big Data Project

September 2017 - November

2017

Technologies Used: Django, Machine Learning

- A system built on Django which collects anonymous feedback and advice the faculty for improvements based on the analysis done on the categorical data.

PH Meter Lite | Research Project

August 2017 - September 2017

Technologies Used: Xcode, SVM, Computer Vision

- An iOS app that captures the image of a litmus paper and outputs an approximate pH value of the solution based on the hue value of the pixels from that image after processing.

Electricity Control | IOT

August 2017 - November 2017

Technologies Used: Arduino, Node JS

- A web-based app that simulates a 3D model of the hostel building which delineates a heat map of the electricity consumed. All the appliances are remotely connected to the server via Arduino.