Education

Master of Science,
Computer Science;
UNC-Chapel Hill;
Jan. 2022-Dec. 2022

Bachelor of Science,
Computer Science (Primary),
Statistics(Secondary);
UNC-Chapel Hill;
Aug 2018-Dec.2021

GRE:330

Dean's List: All semesters

Major GPA: 3.91

CGPA: 3.87

Clubs: Carolina Analytics and Data Science

Technical Skills

Languages: Java, Python, C, R, JavaScript, CSS, HTML, SQL, Octave, MATLAB, C, Prolog;

Frame Works: MongoDB, Pytorch, TensorFlow, React.js;

OS: Windows, Linux;

Other tools: Git, GitHub, Tableau, AMPL;

Course Work

Operating Systems, Computer Security, Machine Learning, Distributed Systems, Algorithms and Analysis, Web Programming, Data Structures, Internet Services and Protocols.

Trivikrama Sai P.T.

My LinkedIn My GitHub vikram14@live.unc.edu +1 (201) 554 8285

BS/MS Candidate | UNC Chapel Hill — Aug. 2018 – Dec. 2022

Work Experience

Happiest Minds Technologies, Machine Learning Intern *May – Aug. 2021*

CCTV surveillance automation and Content Based Image Retrieval

- Created a use-case for **action recognition** models in automating CCTV surveillance. Developed a model using **3D Convolutional Neural Networks** (3D CNN) on **Pytorch**. Achieved 90% accuracy in detecting anomalous behavior from videos. Minimized the processing time per video to 1.5 seconds on a CPU.
- Built a **Content Based Image Retrieval System** to recommend and recover images of similar e-commerce products. System utilized a **Convolutional Autoencoder** backbone for feature extraction coded on Python. Used **ANNOY** to build an index and retrieve images with an 81% top-5-acccuracy. Reduced retrieval time per image by 12.5 % on a single-core CPU.

Qikpod, Android App Development Intern *Jul. – Sep. 2017*

Smart Locker interface design

- Created an **Android Application** that simulates the interface for **smart lockers** that are used for secure deliveries of e-commerce packages
- Developed a virtual interface, using **XML** and **Android studio** (**Java**), to enhance the security of smart lockers through digital verification of passcodes to minimize manual labor required for management of locker spaces.

UNC Department of Computer Science, Learning Assistant *Aug. – Dec. 2021*

- Host office hours every week for COMP 524(Programming Language Concepts) to explain concepts and answer questions students have regarding the material.
- Collaborate with the Professor and TAs to grade, evaluate and assist with completion of homework assignments.

Research Experience

UNC Department of Computer Science, Research Assistant *Oct. 2019.- Present*

Source Code Similarity Detection

- Implemented two **software similarity detection algorithms** in **python** using the concepts of **Normalized Compression Distan**ce and **Winnowing** to assist in identifying Intellectual property theft in universities and the corporate world. Achieved performance similar to services provided by GradeScope and helped verify 6 possible cases of plagiarism for a COMP course.
- Collaborated with a team of researchers to build an **educational machine learning software** that aids students with assignments by recommending potential solutions to errors gathered from similar past data. Reduced amount manual intervention required by enabling faster debugging of programs.

Personal Projects (My GitHub)

Melanoma Detection *May 2020*

- Conducted a survey on the performance of **CNNs** and **SVMs** on the task of **detecting malignant melanoma** from images of moles. Developed the candidate models using **Pytorch** and **Sklearn**. The CNN out-performed the SVM and achieved an accuracy of 86.52%.

Clustering Synonyms for the GRE *Jun. 2020*

- Developed a Synonym Clusterer using **spacy**'s pre-trained **GLOVE word-vectors** to help me memorize words for the GRE exam. As a result of the model, 840 words were learned in under 12 days.

Distributed Map Reducer to Find Mutual Friends on Facebook *Feb. 2021*

- Used **Java's RMI** (Remote Method Invocation) package and **Threads** to write a distributed software that leverages the **Map Reduce**, **Model View Controller**, and **Factory** design patterns to find mutual friends among a group of Facebook users.

Campus Involvement

Carolina Data Challenge *Oct. 2019*

- Used Python's **folium** to plot geo-data and implemented a **K-means clustering** algorithm to find clusters of crime locations in and around the UNC campus at Chapel Hill. Discovered that more crimes were committed near residential areas and explained the increase in the rate of crimes from 2010-2016 by analyzing the rising income inequality among residents of Chapel Hill.