Vinayak Renu Nair

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Education

M.S. - Computer Science,Georgia State University, GPA : 3.88 *Jan 2021 - Present*
B.S. - Computer Science,Amrita School of Engineering, India, GPA : 3.72 *Aug 2016 - May 2020*

Projects

Readability Formulas and Text Coherence

- Developed Machine Learning Models to detect the level of text difficulty using **NLP techniques**.
- Use different word-embeddings and different machine learning algorithms **Random Forest, Logistic Regression, Naïve Bayes, SVM, FastText and BERT** models to produce a readability assessment model.
- Evaluate whether the model is improved by including **linguistic features of cohesion**.

Detecting Depression Using Deep Learning And Neural Networks

- A comparison study to **detect depression** from the transcripts of clinical interviews between the patients and an animated virtual interviewer.
- It is classified based on the level of depression using **Natural Language Processing and Deep Learning techniques** using private dataset received from **Stanford University**.

Library Floor Congestion Monitoring by Active Bluetooth Devices

- Used sensor data in order to determine the congestion levels of the university library's floors.
- Used **Raspberry Pi 3's** as the nodes for the data collection, **ESP8266 wifi chips** as private wifi connection, and motion sensors to count people coming in and out of the various zones in the library.
- The website have diagrams of the library floors split up into sections with the estimated number of people in that section.

Recommender System

- Built a **Movie recommendation system** with **Collaborative Filtering** and **Deep Learning** techniques. Outputs are related content as recommendations out of relevant and irrelevant collection of items to users.

Technical Skills and Coursework

- **Skills**: Solid understanding of Data Structures & Algorithms, Backend Development, Data Analysis and Visualization, Building predictive Machine Learning Models, Object-Oriented design, Map-reduce HDFS
- **Languages**: Python, Java, C++, SQL, R,Object Oriented Design
- **Tools**: Linux, Node JS, Tableau, Git, Docker, JIRA, AWS, Django, Agile
- **Databases**: MySQL, MongoDB, SQLite, MongoDB Compass, VM Box, Oracle RDBMS
- **Soft Skills**: Team Player, Leadership, Motivated, Attention to Detail, Problem Solving, Adaptable, Creative, Excellent Communication, Interpersonal Skills
- **Cloud Technologies/Bigdata**: Hadoop, Spark, Pig, Hive, Map Reduce, Docker, Apache
- **Coursework**: Advanced Software Engineering, Machine Learning, Natural Language Processing, Database Systems, Cloud Computing, Design and Analysis of Algorithms, Data Structures and Algorithms, Internet of Things, Web Programming

Work Experience

Internship : Tejas Networks, Bangalore, India *April 2018 - June 2018*

- Undertook project titled Disk Programming Using Raspberry Pi under the guidance of the Director of R&D.
- Leveraged **PERL** for actuating Raspberry PI and developed a front end interface, using **HTML/CSS**, to showcase the working model.
- Awarded with **Certificate of Merit** from Director R&D for **research and team work**.

Internship : EXFO, Canada *April 2019 - June 2019*

- Performed exploratory data analysis and implemented various machine learning models on cellular data.
- Developed course material regarding Data Models for incoming interns as per directions from Regional Manager.
- Worked with team from Canada remotely doing research on products relating to Telecommunication Industry.

Graduate Teaching Assistant : Georgia State University *Jan 2021 - Present*

- Used **GitHub** and **ZenHub** to help and assist students on their projects for the **Software Engineering course**.
- Teaching Assistant for **System Level Programming** and **Database Systems** courses.
- Wrote solutions to problems and exams, grading problem sets and exams, Assisted in the preparation of lecture materials. Assisted students for projects and coursework.