DIVYA PATTISAPU

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EDUCATION

The University of Chicago *Chicago, IL*
Master's Program in Computer Science - CGPA: 3.71/4 *Mar 2024*
Coursework: Cloud Computing, Machine Learning, Algorithms, Web Development, Big Data Application Architecture

Indian Institute of Technology, Bombay *Mumbai, India*
Bachelor and Master of Technology in Mechanical Engineering - GPA: 8.7/10 *Aug 2021*
Coursework: Deep Learning: Theory & Practice, Data Analysis & Interpretation, Linear Algebra, Calculus, Microprocessors & Automatic Control
Teaching Assistant - Engineering Data Mining & Applications: Instructed 200+ students, Designed & evaluated their assignments

TECHNICAL SKILLS

Programming Languages & Frameworks: Python, C, C++, GoLang/Go, R, MATLAB, SQL; Unittest, Hadoop, Spark, Impala
Cloud Infrastructure & Services: Amazon Web Services (EC2, S3, Glacier, SQS, SNS, ELB, Lambda - Serverless, CloudFormation)
Libraries & Tools: GitHub, Docker, Machine Learning tools (Tensorflow, PyTorch, Pandas, Scikit-learn), OpenMP, MPI, CUDA
Web development languages & frameworks: HTML, CSS, JavaScript, NextJS, NodeJS, REST API, Flask, MongoDB, Bootstrap, MongoDB

EXPERIENCE

University of Chicago Professional Education *Chicago, IL*
Data Analytics Intern *Feb – Aug 2023*

- Automated **customer segmentation** of applicants who decline offers using KModes model; created **GUI** to tailor to each program's needs
- **Ideated** and programmed the script for a **data import pipeline** for student enrollment in programs using **Destiny API**, on Python
- Automated the generation of campaign performance reports on **LinkedIn, Google and Facebook** using the respective **APIs**
- Identified factors contributing to accepted, denied or declined applications using **Decision Tree Classifier** and **Logistic Classifier** models

Mastercard *Gurugram, India*
Associate Consultant *Jul 2021 - Jul 2022*

- Performed **customer segmentation for improving the debit portfolio** of a client bank using K-Means machine learning model
- **Automated market research** by writing a **web scraping** script on Python using Beautiful Soup, reducing man hours by **70%**
- **Presented cross-selling opportunities to internal stakeholders** by performing correlation analysis on Spark between audience segments
- Programmed a **Quality Inspection code for 4 markets** to audit the product data before deliveries, reducing man hours by 40%
- **Core Team Member, Girls4Tech:** Organized knowledge sharing sessions to help young girls build STEM skills

PROJECTS

Genomics Annotation Service – AWS Cloud Computing *Jan - Feb 2023*

- Developed a software-as-a-service genomics annotation application which allows free and premium users to upload their input files, check the status of their annotation jobs and retrieve job results/log files
- Integrated the application with a Stripe payment system; Included a notification system to inform the users of their job completion
- Implemented an archival process to transfer free users' result files from S3 to Glacier after 5 min to save the storage cost incurred

Web Development Projects *Jan - Present*

- Developed an **AI Checklist App** which creates custom checklists using **GPT- 3.5 API on Next.JS**, aimed at users with depression
- Built a **Content Management System** for a web journal, with posts, comments and an admin page using PHP and Sqlite3
- Programmed a **single page group chat web application** with asynchronous Javascript and a REST API in Python with Flask
- Created an image search web interface using **Bing API** to fetch images matching that query and present them to the user
- Developed a **custom version of Slack** (clone), a real-time messaging app using React.JS on the front end & Flask on the back end

Named Entity Recognition Tagging - Geoffrey Hinton Fellow (NLP, Univ AI) *Aug 2022*

- Performed NER Tagging using Natural Language Processing on Tensorflow to understand the structure of the documents and **to find relationships between scientific entities** of an astrophysical dataset (WIESP2022)
- Compared the performance of a stacked Simple-RNN network with a deep LSTM network; Achieved 95% vs 97% accuracy

Deception Detection Using Machine Learning - Master's Dissertation, IIT Bombay *Jan – Jul 2021*

- **Objective:** To identify the truthfulness of a candidate in a job interview using their video, audio and transcribed text data
- Created a stacked **LSTM deception detection neural network** on Tensorflow with an accuracy of 64.7% on the corpus

Indian Customer Behavior towards Electric Vehicles - Research Project, IIT Bombay *Jan – Jul 2020*

- **Objective:** To identify the contributing factors to EV buyer readiness across cities in India to improve its adaptation
- Curated a 35-feature survey dataset, experimented with logit, DL, LDA & Naïve Bayes classifiers; achieved 72 % accuracy
- **Publication:** D. Pattisapu, S. Ravikanti, N. Bagree, et al., "*Analysing the Perception towards Electric Vehicles in India: Variation among different Classes of Cities*". Journal of Eastern Asia Society for Transportation Studies, 2021, 14, p. 264-283

ADDITIONAL PROJECTS AND ROLES

- Currently working at Prof. Hoffman's lab on **Examining cross-platform portability in heterogeneous (CPU/GPU/FPGA) environments** by configuring applications, runtime profiling, benchmarking and analyzing performance metrics
- **ML Algorithms:** Coded decision tree classifiers, SVMs, logistic regression (gradient descent), boosting, CNNs from scratch in Python