DIVYA PATTISAPU

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EDUCATION

The University of Chicago *Chicago, IL*
Master's Program in Computer Science - CGPA: 3.71/4 *Dec. 2023*
Coursework: Machine Learning, Cloud Computing, High Performance Computing, Web Development, Algorithms, Parallel Programming, Computer Architecture

Indian Institute of Technology, Bombay *Mumbai, India*
Dual degree (Bachelor's and Master's of Technology) in Mechanical Engineering - CGPA: 8.7/10 *Aug. 2021*

SKILLS

Programming Languages & Frameworks: C, Go, Python, SQL, R, Hadoop, Spark, Impala, AWS, Tableau
Libraries: Tensorflow, PyTorch, Pandas, Scikit-learn, OpenCV, NLTK, CUDA, OpenMP, MPI
Web Development Languages & Frameworks: HTML, CSS, JavaScript, AJAX, PHP, NodeJs, ReactJs, REST API, Flask, Sqlite3

EXPERIENCE

University of Chicago Professional Education *Chicago, IL*
Data Analytics Intern (part time job) *Feb. 2023 – Present*
- Responsible for implementing ML algorithms to improve acceptance rate across programs by identifying the contributing features
- Performed social media analytics (LinkedIn, Facebook, Google) to understand how to improve media campaigns for courses

Mastercard *Gurugram, India*
Associate Consultant *Jul. 2021 - Jul. 2022*
- Responsible for the Media Ad Insight advertising product deliveries for international markets with over 10 clients
- Created a machine learning (k-means) model to perform customer segmentation for improving a bank's debit portfolio
- Automated the search for merchant names for a given industry by creating a web scraping code, reducing man hours by 70%
- Performed market research analyses comparing the spend prediction parameters from our ML model with historical data
- Developed a PySpark script for correlation analysis between segments for ad-targeting, thus creating cross-sell opportunities

KLA *Chennai, India*
Application Engineering Intern *May – Jul. 2019*
- Performed correlation analysis between production metrics and image attributes, to identify attributes that capture changes in production parameters; Developed a user-friendly R program that quantifies the variation in input datasets

ACADEMIC PROJECTS

Genomics Annotation Service – AWS, Cloud Computing *Jan. – Mar. 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 send job completion notifications

Slack Clone – Single Page Application, Web Development [link] *Jan. – Mar. 2023*
- Developed a custom version of Slack, a real-time messaging app using React.JS on the front end and Flask on the back end
- Implemented Single Page State for the web application; Created a responsive styled webpage using HTML, CSS, JavaScript

Named Entity Recognition Tagging (NER) - 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*
- Contributed a non-native English speakers deception corpus with TF-IDF, LIWC, POS, prosodic, acoustic, lexical & personality (Big Five) features extracted, best features selected using Ada-boost, extratree classifier & correlation methods
- Created a stacked LSTM deception detection 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*
- Curated a 35-feature survey dataset, experimented with logit, DL, LDA & Naïve Bayes classifiers; achieved 72 % accuracy
- 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 [link]

Snake game *Dec. 2022*
- Developed a custom version of the classic GUI-based Snake game from scratch in C by leveraging the ncurses library
- Implemented the logic for a flexible number of game objects (obstacles, special objects, etc.) using a variable length array

High Performance Computing *Jan. – Mar. 2023*
- **Explicit time-stepping for Advection**: Performed static grid-based decomposition with ghost cell filling to improve the grind rate of a scientific computation from 1.5 timesteps/s to 16 timesteps/s using **OpenMP & MPI**
- **Ray Tracing using CUDA:** Rendered the image of a 3D object seen by an observer through the window using the ray tracing algorithm for user-provided number of rays; Achieved optimal configuration for 1B rays on 1000x1000 grid at 256 threads per block in 1.3 seconds
- **Nbody using CUDA:** Optimized Nbody problem for spiral galaxy initialization using CUDA distributed memory pipeline

MENTORSHIP AND ACADEMIC ROLES

- **Grace Hopper Scholar:** Received a scholarship of $200 from UChicago to attend Grace Hopper Conference 2022
- **Core Team Member, Girls4Tech:** Organized knowledge sharing sessions to help young girls build STEM skills
- **Teaching Assistant - Engineering Data Mining & Applications:** Designed & evaluated assignments for 200+ students