DEBAYAN TALAPATRA

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Summary

- **Senior Engineer and ML/AI enthusiast graduated from Visveswaraya Technological University and currently working with Siemens having more than 7.5 years of extensive experience in developing Linux and Windows based Embedded and desktop products, Data Analytics and Machine Learning.**

- **Working in railway domain to develop an Integrated Development Environment (IDE) for users to build Interlocking logic to be used in electronic interlocking signaling system.**

- **Has created chatbots, AI model for gesture recognition, worked on various datasets to build Machine Learning Models and also has experience on EDA, Feature Engineering and Feature Selection.**

- **Has completed 1-year PG Diploma from IIIT-Bangalore on Machine Learning & AI in May 2020.**

- **Worked in the Automotive industry on the field of Human Machine Interface (HMI). Hands-on experience in designing and implementing solutions by integrating various hardware through relevant software in the domain of Access Control and Health.**

- **Extensive knowledge of System Programming in Linux on C/C++, Linux Kernel Internals and Shell Scripts.**

Technical Skills

- **Programming Languages: C/C++, Python, Linux System Programming**
- **Programming Concepts: Design Patterns, STL**

- **Domain: Railways (Interlocking), Automotive, HMI, Data Science, Data Analysis, Deep Learning, Machine Learning**

- **Machine Learning models: Linear Regression, Lasso/Ridge Regression, Logistic Regression, SVM, Decision Tree, Ensemble Models (Random Forest, Gradient Boost, XGBoost), Unsupervised Models**

- **Tools & Technologies: Qt Creator, Jupyter Notebook, Squish, GitHub, CA Agile Central, RTC, Code Collaborator, PyCharm, AWS, Google Collab, Keras, OpenCV, RASA framework, Scikit-learn, Seaborn, Matplotlib, Pandas, Numpy**

- **Others: Exploratory Data Analysis, NLP, Hypothesis Testing, Neural Networks, Feature Engineering, Feature Selection, Model deployment on cloud, basic Cloud (AWS).**

Experience

- **Senior Software Engineer**   **July 2018 to Current**
  Siemens Mobility - Pune, Maharashtra

  Responsible for development of an IDE for creation and validation of Interlocking logic charts used in Railway domain.

    Project – Objective Interlocking (OIL)
    Team: 5

Role Played: Developing UI and BL for various features to create, read, validate Interlocking logic used in Railways throughout the world along with electronic interlocking system SIMIS-W. Writing python test scripts for integration testing in Squish.
Gathering requirements.
Skill Used: Qt, C++ , Python

- **Senior Engineer - Product Development**   **Oct 2016 to July 2018**
  HARMAN Connected Services Pvt Ltd (Samsung Electronics subsidiary) - Pune, Maharashtra
  Client - John Deere India

  Responsible for development of Tractor applications to control various equipment's such as Seeders and Planters.

  Project - Branson
  Team: 21
  Role Played: Developing UI and BL for various features to control the physical equipment. Writing unit test cases using Google Test. Writing spec documents.
  Skill Used: Qt, C++ , Shell Script

  Project - Redmond
  Team: 30
  Role Played: Developing UI and BL for various features to control the physical equipment. Writing unit test cases using Google Test. Testing the implementation after each Agile sprint on the Linux simulator and the hardware.
  Skills Used: Qt, C++, Shell Scripts
  https://www.youtube.com/watch?v=xlLP3KPOUcA

- **Software Developer**   **Aug 2014 to Sept 2016**
  Score Information Technologies Ltd - Kolkata, West Bengal

  Responsible for development of C++ Desktop program for Medical Application.
  Team: 2
  Role Played: Designing classes and integrating biometric and smartcard library.
  Skill Used: C++ , Shell Scripts
  Development of Access Control System (ACS) in Vizag Steel Plant in Vishakhapatnam.
  Team: 6
  Role Played: The key responsibility was to design and implement
  Business logic running out from an Linux based M5 reader (ARM), integrating hardwares like Boom Barriers/Flap Gates/Turnstiles and RFID antennas.
  Skills Used: C, C#, Shell Scripts, Linux System programming, Cross Compilation
  Responsible for maintenance and development of SCOSTA based
SmartCard Operating System

- **Exposure to Machine Learning & AI (some notable projects)**

  - **Built a multiple linear regression model for the prediction of car prices.**

- **Reduction of customer churn by predicting which customers are at high risk of churn to help telecom companies retain them. Used logistic regression and State Vector Machine.**

- **Restaurant finder chatbot using RASA framework and deployed on Slack.**

- **Used Reinforcement Learning to implement an algorithm to help App cab drivers to maximize their profit by improving their decision-making process on the field.**

- **Developed a cool feature in the smart-TV that can recognize five different gestures performed by the user which will help users control the TV without using a remote. The gestures are continuously monitored by the webcam mounted on the TV. Each gesture corresponds to a specific command:**

  Thumbs up: Increase the volume
  Thumbs down: Decrease the volume
  Left swipe: 'Jump' backwards 10 seconds
  Right swipe: 'Jump' forward 10 seconds
  Stop: Pause the movie
  This project was undertaken as part of Neural Network. Implemented using CNN.

- **Air Quality Index Prediction using Web-Scrapping.**

- **Visibility climate prediction.**

- **Face Recognition using Keras and OpenCV.**

Education

Post Graduate Diploma in Machine Learning & AI	
International Institute of Information Technology – Bangalore	**2020**
Electronics & Communication Engineering	
SECAB Institute of Engineering & Technology Place - Bijapur	
Visvesvaraya Technological University	**2012**
I.S.C, Science	
M.H.M.S – Kolkata, West Bengal, India	**2007**
I.C.S.E, Science	
M.H.M.S – Kolkata, West Bengal, India	**2005**
PG Diploma, Embedded Systems	**2013**

Personal Information

Age (DOB): 31 Yrs. (26th January 1989)
Sex: Male
Nationality: Indian
Marital Status: Married

Present Location: Pune, India