Rohan Chaudhury

3645 Wellborn Rd, Bryan, Texas 77801

(979) 985-8903 rohan.chaudhury.rc@gmail.com linkedin.com/in/chaudhury-rohan github.com/Rohan-Chaudhury

Education

Texas A&M University, College Station, Texas **August 2021 – May 2023 (Expected)**

Master of Science in Computer Science, with Graduate Scholarship GPA: 4.0/4.0

National Institute of Technology (NIT) Durgapur, India **August 2015 – May 2019**

Bachelor of Technology in Electronics and Communication Engineering Cumulative GPA: 9.25/10

Courses: Machine Learning, Software Engineering, Pattern Recognition, Deep Learning, Natural Language Processing, Analysis of Algorithms, Operating Systems, Data Mining, Object Oriented Programming, Parallel Computing

Technical Skills

Languages:	Python, Java, C++, C, TypeScript, JavaScript, SQL, Ruby, Bash, HTML/CSS, XML
Libraries:	Tensorflow, PyTorch, PySpark, Caffe, Keras, Scikit-learn, OpenCV, ONNX, Pandas, Numpy, Selenium, Regex
Cloud skills:	Amazon Web Services Lambda, Dynamodb, Cloud Development Kit, S3, CloudFormation, EC2, VPC, IAM, Athena, CloudAuth, EventBridge, SAP HANA Cockpit, Google Cloud Platform, Azure, IBM Watson
Toolkits:	Hugging Face, Artificial Intelligence Model Efficiency Toolkit, Snapdragon Neural Processing Engine SDK
Others:	Dagger, Spring Framework, MVC, Linux, Git, MATLAB, Jupyter Notebook, JIRA, Docker, Salesforce, Heroku

Work Experience

Soft Interaction Lab, Texas A&M University **Mar – May 2022 & Aug 2022 – Present**

Graduate Research Assistant | *Tensorflow, PyTorch, Hugging Face, Unity* Department of Visualization, TAMU

- Developing Conversational AI agents for Virtual Reality Environments using transformer models. Colab link, Github

Amazon.com Inc. **May 2022 – August 2022**

SDE Intern | *AWS Lambda, Dynamodb, S3, EC2, VPC, CDK, IAM, Java, JavaScript, TypeScript* Seattle, Washington

- Worked on designing and developing an end-to-end software architecture using the AWS cloud computing resources, which would serve as an analytics tool for internal teams. It takes the required critical data from the target services, then processes it using AWS Lambda resources and stores it in DynamoDBs. This data is then used to do various forms of analysis in a separate backend service, which is then displayed on a custom front-end.

Qualcomm India Private Ltd. | *Artificial Intelligence Software Team* **Nov 2019 – Aug 2021**

Associate Software Engineer | *SNPE & QNN, AIMET, Tensorflow, PyTorch, Hugging Face, ONNX* Hyderabad, India

- Optimized various trained Neural Network models (of Samsung, OnePlus, and other OEM customers) utilizing model compression, quantization and fine-tuning techniques, to run the models efficiently on DSP cores of Snapdragon chipsets
- Fixed several critical bugs in Snapdragon Neural Processing Engine SDK to enhance the core features it offers
- Developed a new Recommendation System to give suggestions of similar Salesforce issues raised by customers in the past for newly raised customer issues, with a reported accuracy of 74% across various engineering divisions of Qualcomm
- Developed a widely used (more than 150 internal users/month) Automation Software to automatically download (Selenium), parse (Regex), and generate error logs and reports from device crash dumps sent by customers in Salesforce
- Identified & fixed critical Docker, bokeh server, and documentation bugs in AIMET, an open-source Qualcomm project

PricewaterhouseCoopers (PwC) Pvt. Ltd. (Internship) **May 2018 – July 2018**

Technology Consultant Intern | *SAP Cloud Platform, SAP HANA Cockpit, RASA, Dialogflow* Kolkata, West Bengal, India

- Developed an AI ChatBot for real-time communication with SAP cloud database. Documentation

Academic and Personal Projects

Academic Projects | *Python, PyTorch, Tensorflow, Numpy, Pandas, Javascript, HTML* **2021 – 2022**

- Designed an Adaboost classifier for face detection using Viola Jones algorithm with 97% accuracy. Medium article,Code
- Utilized (1) bayesian optimization for hyper-parameter tuning to train a custom Convolutional neural network and (2) fine-tuning of pre-trained ResNet50 and MobileNetV2 models for Facial Expression Recognition (ICML 2013). Code
- Estimated public speaking anxiety from VerBio dataset using (1) FNN trained with (a) features modified using filter and wrapper category selection methods and Principal Component Analysis, (2) RNN, GRU, LSTM networks. Poster, Code
- Efficient collaborative filtering and SVD++ matrix factorization technique implementation as described in Korenś 2008 paper "Factorization meets the neighborhood: a multifaceted collaborative filtering model". Colab, Github
- US congress tweets data analysis using word2vec, hugging face models, t-SNE, PCA, and kmeans. Colab, Github
- Designed the Apriori algorithm to find frequent itemsets and association rules in the movielens dataset. Code
- Trained decision tree, random forest, Adaboost regressor models to predict hiring chances based on job interviews. Code

- Applied PageRank algorithm and EDA using PySpark and graphframes on us-congress-tweets dataset. Code
- Implemented a K-Nearest Neighbour classifier for cancer death risk prediction using Haberman's Survival Dataset. Code
- A study of various aspects of the operating systems designed for the Internet of Things environment and devices. Link
- Utilized K-means and Gaussian Mixture Models for clustering countries based on their longitude and latitude. Code
- Multiple Producer-Consumer Problem solution in C without using any shared memory. Github
- FIFO, LRU, Second-chance page replacement algorithm implementations in C. Github
- Designed a linear regression model from scratch for the prediction of outcomes in a game setting. Code
- Implemented and enhanced javascript and html content of animations and games in Texas A&M vetmed website. Video
- FCFS, SCAN, and C-SCAN disk scheduling algorithm implementation in C. Github
- A wrapper implementation for the Stat command-line program in C. Github

Personal Projects | *Python, OpenAI Universe, Android Studio, Unity, C++, Tensorflow, Selenium* **2017 – 2020**

- Fabricated Reinforcement Learning (RL) tutorial series to demonstrate the steps to make an AI game Bot using RL
- Developed RFID card based authentication system project using Raspberry Pi, Github Link, Explanation video
- Created an Augmented Reality-based Android Application in Unity that can render any video over any surface on screen
- Developed an AI Chatbot Android Application using Android Studio and Google Dialogflow, Github link
- Developed Smart Travel Route Finder application in C++ using Dijkstra's algorithm to get optimal route between cities
- Trained a Sentiment Analysis model using Tensorflow to analyze positive/negative sentiments in reviews, Github Link

Publications

Mahato S, **Chaudhury R**, Kar R, Mandal D, Saha S, Optimal Integer Order Approximation of Fractional Order Human Ear Simulator, IEEE Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology, ECTI-CON- 2018, Chiang Rai, Thailand. Indexed in SCOPUS and IEEE Xplore Digital Library