Rohan Chaudhury

Actively looking for full-time positions; available from May 2023
Experienced and skilled in Full-stack Software Development and Machine Learning Algorithms

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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

Work Experience

Soft Interaction Lab | ***Graduate Research Assistant*** **Mar – May 2022 & Aug 2022 – Present**
Department of Visualization | *Python, Tensorflow, PyTorch, Hugging Face, Unity* Texas A&M University, College Station

- Spearheaded the development of a Conversational Artificial Intelligence application to serve as a virtual patient for Texas A&M School of Nursing students, replacing manual training methods. Adopted and highly acclaimed by the school.
- Currently enhancing the context detection and coreference resolution aspects of the Conversational AI

Amazon.com Inc. | ***Software Development Engineer Intern*** **May 2022 – August 2022**
Java, JavaScript, TypeScript, AWS - Lambda, DynamoDB, Athena, S3, EC2, VPC, CDK, IAM Seattle, Washington

- Developed a full-stack software that procures run-time customer-data consumption details of internal services and analyzes it to show the data consumption statistics and access limitations for the individual services in a dashboard
- It saves 80% manual effort of the service owners by enabling them to get a better perspective of the data utilization details, access limitations, and possible security breaches all in one place, which previously was a tedious task to find

Qualcomm India Private Ltd. | ***Associate Software Engineer*** **Nov 2019 – Aug 2021**
Artificial Intelligence Software Team | *SNPE, 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
- Implemented critical feature requests in Snapdragon Neural Processing Engine SDK to enhance its functionalities
- 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 850 internal users/month) Automation Software to automatically download (Selenium), intelligently parse, & generate error logs & reports from device crash dumps sent by customers in Salesforce
- Fixed critical Docker, bokeh server, and documentation bugs in AIMET (Artificial Intelligence Model Efficiency Toolkit)

Projects and Publications

Projects | *Python, C++, Java, PyTorch, Tensorflow, Numpy, Pandas, Javascript, Unity, Android Studio* **2019 – 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-tuned 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
- Implemented efficient collaborative filtering and SVD++ matrix factorization as described in Korenś 2008 paper "Factorization meets the neighborhood: a multifaceted collaborative filtering model". Colab, Github
- Discovered and plotted interesting associations by analyzing US congress tweets dataset using word2vec, hugging face models, t-SNE, PCA, and kmeans. Colab, Github. Initially explored the dataset using PySpark and graphframes. Code
- Designed the Apriori algorithm and used it to find frequent itemsets and association rules in the movielens dataset Code
- Conducted a study of various aspects of the operating systems designed for the Internet of Things (IoT) devices. Paper
- Implemented solution to the Multiple Producer-Consumer Problem in C without using any shared memory. Github
- Created an Augmented Reality-based Android Application in Unity that can render any video over any surface on screen

Publications **2017-18**

- 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

Technical Skills

Languages: Python, Java, C++, C, TypeScript, JavaScript, SQL, Ruby, Bash, C#, HTML/CSS, XML
Cloud skills: Amazon Web Services (AWS), SAP HANA Cockpit, Google Cloud Platform, Azure, IBM Watson
Others: Tensorflow, PyTorch, PySpark, Hugging Face, Caffe, Keras, OpenCV, Selenium, Dagger, Spring Framework