

# ROHAN CHAUDHURY

Available for spring 2023 co-op/internships and for full-time positions from May 2023

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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

- Researching on improving the context detection and coreference resolution aspects of Conversational AI agents.

**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 using AWS Lambdas, and stores it in DynamoDBs. The collected data is analyzed to show the data consumption statistics and customer-data restriction policies (in a newly developed dashboard) to internal teams for their respective services.

**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 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
- Fixed critical Docker, bokeh server, and documentation bugs in AIMET (Artificial Intelligence Model Efficiency Toolkit)

**PricewaterhouseCoopers (PwC) Pvt. Ltd. | Technology Consultant Intern**

**May 2018 – July 2018**

SAP Team | *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](#)

## Projects and Publications

**Projects | Python, C++, Java, PyTorch, Tensorflow, Numpy, Pandas, Javascript, 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](#)
- Efficient collaborative filtering and SVD++ matrix factorization technique implementation as described in Koren's 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](#)
- Applied PageRank algorithm and EDA using PySpark and graphframes on us-congress-tweets dataset. [Code](#)
- Conducted a study of various aspects of the operating systems designed for the Internet of Things (IoT) devices. [Link](#)
- Multiple Producer-Consumer Problem solution 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
- Developed an AI Chatbot Android Application using Android Studio and Google Dialogflow, [Github link](#)

## 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, 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