

EDUCATION

MS in Computer Science, Virginia Tech, Blacksburg, VA (3.88/4.0)

Aug 2021 – May 2023

BE in Electronics Engineering, Thapar University, Punjab, India (8.95/10.0)

Jul 2014 – Jun 2018

SKILLS

- **Technical:** Python, JavaScript, Java, Flask, Spring, NodeJS, Angular, Selenium, Git, SQL, MongoDB, Redis, Jenkins, Docker, Kubernetes, AWS (EC2, Lambda, S3, Batch), GCP, PyTorch, Snowflake, Spark, microservices, Linux, MLOps
- **Industry:** Full stack development, Test-driven development, Software design, Cloud DevOps, Data Science

EXPERIENCE

CAPITAL ONE

Cambridge, MA

Intern

Jun 2022 – Aug 2022

- Developed the natural language autocomplete (next phrase prediction) for the ENO chatbot, bank website
- Used models including attention bi-LSTM and GPT-2, incorporating context with strict controllability, built data pre-processing pipelines, trained and hosted on AWS. Decreased the real-time latency from 200ms to 40ms
- Achieved a **25-50%** improvement in relevance over the existing rules-based solution
- Used **Python, AWS, Snowflake, JavaScript, PyTorch, Tensorflow, keras**

AMADEUS IT GROUP (LABS)

Bangalore, India

Senior Software Engineer (Full Stack)

Jul 2018 – Jun 2021

- Worked on an R&D project to classify the incident records (natural language text) received by Amadeus into their products, root causes etc. using deep neural networks, statistical machine learning, and NLP
- Used general NLP, 1D-CNN, bi-RNNs and novel ensemble techniques. Built the complete CI/CD pipeline
- Achieved **70-90% accuracy** in the classifiers; Insights reduced the overall incidents by up to **20%**
- Used **Python, Java, AWS, Docker, Tensorflow, keras, MySQL, Spark, Node.js**
- Built a front-end app using **Flask, Angular, JavaScript** for recommendations and trends for decision-makers

Intern

Jan 2018 – May 2018

- Built an application to completely automate the Logs Extraction process for incidents and work orders. Used **Java, Selenium, RPA, Spring**. Over **4000** records were processed in a year, with **thousands** of man-hours saved.

PROJECTS

- **RNN LSTM for controlled Text Generation.** A bidirectional attention-weighting RNN- LSTM, trained on Donald Trump tweets dataset using contextual labels. Used **Python, Keras, PyTorch, JavaScript, Docker**. [\[CODE\]](#) [\[DEMO\]](#)
- **Search VT (Information Retrieval).** Developed a search engine using Transformers and FAISS that crawls Virginia Tech's web resources effectively and supports contextual search. Used **Java, Python, Docker, TypeScript, SQL**
- **Quick Draw CNN.** Trained a deep CNN on the quick draw dataset by Google to classify hand drawings into 100 distinct objects and achieved a **95% accuracy**. Real-time inference on the client using tensorflow.js. Used **Python, TensorFlow, opencv, JavaScript** [\[DEMO\]](#)
- **Android Applications (Developed and Published).** Developed and published 5 android applications to the Google Play Store (**Java, Kotlin, Android SDK, MySQL, Unity**). **10000+** cumulative downloads, 4+ ratings. [\[CODE\]](#) [\[APPS\]](#)

RESEARCH AND PUBLICATIONS

- "Shallow Encoder Deep Decoder for Image Encryption and Decryption". **Chirag Gupta**. (Dec 2019). [\[PAPER\]](#) [\[CODE\]](#)
- "Self-Learning Robot Using Real-Time Neural Networks". **Chirag Gupta**, Chikita Nangia, Chetan Kumar. IJRET (Vol 7, Issue 10) (Oct 2018). [\[PAPER\]](#) [\[DEMO\]](#)

ACHIEVEMENTS

- AWS Machine Learning, Intel Edge AI Scholarship Challenge winner through Udacity. Used python 2021
- Winner among 50+ global teams in the Amadeus Datathon. Used DL for price forecasting (*team lead*) 2020
- Runner-Up in Amadeus Futurize Hackathon. Text Reviews handling automation (*team lead*) [\[DEMO\]](#) [\[VIDEO\]](#) 2019
- Runner up in Aegon International Hackathon 2018. Built a mobile app with real-time ML, chatbot (*dev lead*) 2018
- IIT Bombay Techfest IDEATE Finalist (top 12 from 500+ teams) (*team lead*) [\[VIDEO\]](#) 2015