Harshit Gupta

|| : guptah-harshit

Education

IIT Kanpur
MTech, CSE | CPI: 9.14
2018 - 2020

G.B.Pant Engg. College
BTech, CSE | 79.3%
2014 - 2018

Modern School, Rishikesh
ISC (SSC) | 93.75 %
2014

Modern School, Rishikesh
ICSE (HSC) | 93.6 %
2012

Skills

Programming Languages:
• Java • C • C++
• Python • C#
• Kotlin • Dart

Technologies:
• UWP App Development
• Android App Development
• REST APIs • Azure
• OpenCV • PyTorch
• LateX

Research

Explainable Anomaly Detection
Jul, 2019 - Jun, 2020
MTech Thesis | Dr. Arnab Bhattacharya
• Devised a way to explain anomalies detected by autoencoders.
• We used Anchors to explain the anomalies.
• Explanations were rule-based and intuitive.

Achievements/Awards

• Academic Excellence Award 2018 from IIT Kanpur.
• AIR 111 in GATE CS 2018.
• Secured Rank 139 in Round 1 and Rank 44 in Round 2 of Codevita 2017 organized by Tata Consultancy Services among 99,473 participants.

Interests

• Standup comedy
• Poetry
• Badminton

Experience

Microsoft July, 2020 - Present
Software Engineer | Surface Apps & Experiences | Hyderabad, India
• Starting from scratch, enabled cross-device communication between devices over cloud to show real-time information of all devices connected to User's account.
• Designed, developed and deployed a cloud service(REST) that enables users to know the information and current state of their other devices.
• The APIs in cloud service have more than 10 million active users and are able to handle over 5000 requests per second in the initial stage.
• Added support for our own cloud service in UWP, Android and Flutter application backend.
• Handled security and privacy by adding authentication, authorization and keeping the data encrypted on server.

IBM Research India March, 2020 - May, 2020
Research Intern | IBM Research AI | Bangalore, India
• Worked on detecting anomalies and explaining the anomalies.
• Used SHAP, Anchors, Gradients to explain anomalies treating the detection system as black-box.

Projects

Teams++ July, 2021 - July, 2021
FHL Hackathon | Microsoft E+D
• Added features to Microsoft teams like Video tagging, Object Focus mode, filters (like glasses, beard, etc.) using OpenCV.

Cross Device Communication using Signal R May, 2021 - May, 2021
FHL Hackathon | Microsoft E+D
• Used Signal R to create a cross-platform service that enables devices to share updates, send messages and control settings (volume, brightness, etc) for other devices belonging to the same user.

Non-parametric Bayesian Models - Clustering Jan, 2019 - Apr, 2019
Probabilistic Modelling and Inference | Asst. Prof. Piyush Rai
• Implemented Non-parametric version of Gaussian Mixture models(GMM).
• Dirichlet Process is used to learn the number of clusters/mixtures as well as the parameters of each Gaussian Distribution from the data.

Secure Cloud Storage Jan, 2019 - Apr, 2019
Computer Systems Security | Asst. Prof. Pramod Subramanyan
• Designed architecture of a cloud file storage that works even on malicious server.
• Implemented in Golang, also supports basic functionalities like adding users, login, creating a file, updating a file, sharing a file and revoking access.

Evaluation of ML Classification Methods Aug, 2018 – Nov, 2018
Introduction to Machine Learning | Asst. Prof. Piyush Rai
• Compared performance of various ML classification methods on MNIST dataset.
• Methods compared: K-Nearest Neighbors, Decision Trees, Random Forests, Linear & Kernelized SVM, Feedforward NN, CNNs, Softmax Regression.

Collaborative Whiteboard Sept, 2018 - Nov, 2018
Topics in Distributed Systems | Prof. R. K. Ghosh
• Application where multiple users share same canvas on different screens.
• The main challenge was to maintain consistency across multiple canvas.
• Java's Remote Method Invocation(RMI) was used for transfer of data.