RITIKA DHIMAN

Chandigarh, India | +91-7009428252 | ritikadhimanritz@gmail.com | LinkedIn | Github

EDUCATION

Carnegie Mellon University, School of Computer Science Pittsburgh, Pennsylvania
Masters of Science in Artificial Intelligence and Innovation Aug. 2021 – June 2023

Chandigarh College of Engineering and Technology Panjab University, Chandigarh
Bachelor of Engineering in Computer Science | CGPA: 9.27/10 Aug. 2017 – June 2021
- Top 1% of Department of Computer Science
- Awarded Merit Scholarship for Academic Performance.
- **Chairperson, ACM Students Chapter (2019 - Present)** - scaled community to 150+ members through 25+ events including webinars, competitions and workshop focusing on developing technical and leadership skills.
- **Class Representative (2019 - Present)** - gained public speaking, organisation, problem-solving and negotiation skills by proactively coordinating with a class of 77 students and staff.

D.A.V. Public School, Sector 8C Chandigarh
Intermediate/ Class XII CBSE | AISSCE(%): 96.2/100 (Rank 2) 2015 – 2017

WORK EXPERIENCE

Design and Innovation Centre, Panjab University Jan 2020 – Present
Research Intern Chandigarh, India
- Implemented First Order Motion model of Generative Adversarial Networks for generating Deepfakes dataset.
- Validated datasets for DeepFakes detection in Forgery

American Express June 2020 – July 2020
Analyst Intern Bangalore, India
- Developed a predictive model for **User Story Prediction and Project Prioritization using Machine Learning**, Word2Vec model and K-means Clustering methods.
- Developed a REST API using Flask for the trained model.
- Designed GUI for the predictive model showing tabular and graphical results using React integrated using Java Springboot and Couchbase DB.
- **Pre-placement offer(PPO)** to join as an Engineer Trainee from June 2021 ownwards.

Terminal Ballistics Research Laboratory (TBRL), DRDO June 2019 – July 2019
Research Intern Chandigarh, India
- Undertook project **"A Study and Implementation of RTOS on ARM9 Micro-controller."**
- Detailed study and comparative analysis of various open source as well as licensed Real Time Operating Systems.
- Implemented FreeRTOS and Keil RTX on ARM9 Micro-controller.

ACM India Winter School January 2020
IBM Research | Indian Institute of Science Bangalore, India
- Detailed study of **Hybrid Cloud**. Demonstrated the learning of cloud as a service, virtualization and containers.
- Selected for school on **Natural Language Processing** *(in January 2021)*

PROJECTS

NeoG Web Development Bootcamp January 2021 - Present
- Developed a *Personal Portfolio website* in Javascript HTML/CSS to share experience, skills and projects. **Checkout website.**
- Designed a *CSS Component Library* comprising easy to use CSS components such as alerts, buttons, cards, modals, etc. **Checkout website.**
- Built an *E-commerce app* in React integrated with *backend* in Express and MongoDB. It contains functionalities such as authentication, cart, wishlist, address management and sorting filters. **Checkout website.**
- Developed an *Video streaming website* in MERN Stack. Well authenticated app to access and create playlists, history, and liked videos. **Checkout website.**
- Build a **Quiz app** in Typescript to play quiz, keep score, timer and highscore.

Speech Emotion Recognition using Modified Neural Networks March 2020 - September 2020
- Modified DenseNet201 trained on spectrogram images of audio files for language-independent emotion detection and validated on 'EmoDB' and 'SAVEE' datasets.
- Outperforms residual networks for emotion classification task. A paper submitted for publication is under review process.

COVID-19 Worldwide Analysis and Prediction April 2020 – May 2020
- Developed COVID-19 patient recovery and death predictor with graphical visualisation.
- Achieved death accuracy 95.75% and recovery accuracy 83.18%. Received 'A' grade on the project.

Publications

Modified Dense Convolutional Networks based Emotion Detection from Speech using its Paralinguistic Features
Springer, Multimedia Tools and Applications (under review process), SCI indexed journal - impact factor 2.313
- The proposed modified dense convolutional networks for emotion detection from speech outperforms the residual networks for the emotion classification task and successfully validated on two different language datasets.

A New Android Application (Breeze) for College Management System
IEEE, International Conference on Computing Methodologies and Communication 2019
- Presented/contributed paper in the conference on an android application to solve basic problems of college students.

Recent Trends on Real Time Object Detection using Single Shot Multibox Detector
International Journal of Science and Research 2019
- Co-authored a review paper on deep convolutional neural networks based SSD capable of performing object detection in single-frame images.

Recent Trend of 3D Printer in Manufacturing Industry
ETAHBS-2019
- Co-authored paper on 3D Printer programmed with Arduino Mega 2560 micro-controller.

Technical Skills and Courses

Web development: Javascript(ES6), ReactJS, Typescript(basics), Nodejs, ExpressJS, MongoDB, HTML/CSS
Languages: Python, Java, C/C++, MATLAB, Kotlin
Frameworks: React, Flask
Developer Tools: Git, Docker, AWS, Postman, Netlify, Heroku, GCP, VS Code, Android Studio
Libraries: OpenCV, Scikit-learn, Keras, Pandas, NumPy, Matplotlib
Operating System and Database: Linux(CentOS); MySQL, Firebase, Couchbase
University Courses: Artificial Intelligence, Software Engineering, Data Structures, Algorithms, Database management, Computer Networks and Security, Theory of Computation

Certifications

Deep Learning Specialization (5 courses)	Deeplearning.ai on Coursera	July 2020
Practical Deep Learning for Coders	*Fast.ai*	April 2020
Cloud Engineering Track	Google Cloud Platform	October 2020
Data Science and Machine Learning Track	Google Cloud Platform	October 2020
Microsoft AI Classroom Series	Microsoft	NASSCOM	December 2020
Internet of Things Foundation	RoboTech Labs Private Limited, Noida	December 2019

Technical Acheievements

- Recipient of Grace Hopper Celebration India 2020-21 and 2019 Student Scholarship.
- Selected as HPAIR Delegate for Harvard Conference 2021 by Harvard College Project for Asian and International Relations.
- Poster presentation in All India ACM Student Chapter Summit 2019 at Manipal University, Jaipur.
- Successfully completed Level-0 of neog.camp, a bootcamp for Web Development. Here is my **Portfolio** .
- Organized Hour of Code 2020 and Covid Codathon under CCET ACM Student Chapter.
- Successfully completed 30 Days of Kotlin Program 2020 by Google Developer.
- Attended AWS Innovate Conference - AI/ML Edition and AWS Summit 2020.
- Winner Hackathon 'Hacksprint 2018', UIET.
- Winner Code Relay 2018, PEC.
- Rank 8 (of 47 participants) in American Express Codility 2020.
- Finalist Hackathon 'American Express VHack 2020'.
- Runner-up Internal Smart India Hackathon 2020 and Amazon Web Services.
- Runner-up Ideathon 2019, EVRY Company.
- Successfully contributed in Hacktober fest 2019 and 2020, Digital Ocean and Dev.
- Recipient of two years Merit Scholarship for 10 CGPA (of 10) in class X.

Extra-curriculars

- Volunteered as Creative Head of Rotaract Club of Chandigarh. Been a committed general body member since past 2 years, now serving as one of the Board of directors.
- Volunteered for Umeed-Ki-Awaaz Campaign with Cheema Trust. Recorded audio books for visually impaired students for more than 10 hours till date.
- Subhead of Cultural Committee at Apratim'18, an annual techno-cultural fest of CCET, Chandigarh.
- Represented college in various 'Group Dance' competitions at IIT Mandi 2018 *(Winner)*, IIT Roorkee 2017 *(Winner)*, PECFEST 2017 *(Runner-up),* with Beatles Dance Crew of CCET.
- Winner in 'Relay Race' and Runner-up in 'Badminton' events at Annual Sports Meet 2018 and 2019 respectively.
- Winner in 'FashionShow' event at Apratim'18@CCET.
- Executive member of 'Training and Placement Cell of CCET' for two years.
- Active member of '7Notes - Official Musical Club of CCET' for four consecutive years.