Arijit Gupta

Pre-Final Year Undergraduate

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Education

Present | **Birla Institute of Technology and Science, Pilani, Goa** | BE in Electronics and Instrumentation
August 2018 | CGPA : 7.75/10 (5 semesters)

Work Experience

July 2020 – May 2020 | **Microsoft** | Software Engineer Intern

- Was one of the select 33 second year interns among all 500+ interns
- Migrated a static website to a dynamic website which implemented systematic polling of APIs and real time update of components in ReactJS and deployed the web service on Azure
- Added a system to existing .NET MVC project to integrate and run ReactJS pages on it with the use of transpilers and bundlers

JavaScript | ReactJS | C# | AWS

May 2020 – Feb 2020 | **Tessellate Imaging** | Machine Learning Intern

- Worked on adding features such as cloud deployment of deep learning models, model optimization and resolving bugs in a set of open source tools
- Helped in creating real-world applications such as automated plant-leaf disease classification, weapon detection and animal detection using custom libraries

Python | PyTorch | MXNet | TensorFlow

Sept 2019 – May 2019 | **WorldQuant LLC**

Research Consultant

- Built robust financial signals to detect arbitrage in international financial markets
- Selected to be a part of the research consultant programme after breaking into the top 1 percentile of participants of the WorldQuant challenge
- Created algorithm-based models using Python and propriety libraries that seek to predict movements of global financial markets

Python

Select Projects

Depth Estimation from Monocular Images

August 2020 - Present

Supervisor : *Dr. A. Amalin Prince*

- Inferring depth information from a single image to infer scene geometry from 2D images.
- Performing application specific processing for autonomous vehicles, and advanced driver assistance systems (ADAS).

Python

Model of Lexical Development in Children

June 2020 - May 2021

Supervisor : *Dr. Veeky Baths* *Paper*

- Used word vector representations to study the semantic and syntactic lexical development in children
- Explored the usability of diachronic distributed word representations in cognitive modeling and analysis of the lexical development in children

Python

ChainVoter

June 2019 - July 2019

Won First Runner-Up at Microsoft CodeFunDo++ Hackathon

Code

- Web and mobile application for secure online voting using blockchain.
- Implements two-factor authentication of voters using face recognition with Microsoft Face API and MongoDB database.
- In the blockchain the creation of block uses User ID(containing Name, Party, Constituency, Aadhaar, Voter ID, and Signature(Name, Aadhaar, Voter ID) and hashes them. Also checks if the vote is a duplicate before adding it to the ledger.

Javascript | Angular | Typescript | CSS

Rasoee

June 2020 - August 2020

Won First Runner-Up at Global PyTorch Summer Hackathon 2020

Code Website

- Web and android application that identifies food dishes from images. The image classification model is trained in Pytorch using a EfficientNet B2 model as base, and some pre-processing done on the images.
- The data of 308 unique classes of food items was scraped from the web and cleaned. The mobile application, built with Kotlin, runs completely on the edge and no active internet connection is required to identify the dishes.
- The application also takes an image input, and returns the identified food item, its primary ingredients, link to a recipe and link to video tutorials for that dish.
- The website is built with Django and hosted on Heroku

Python Django Kotlin PyTorch

Talaash

March 2021 - Present

Finalist at OpenCV Spatial AI Competition 2021

- Our proposal was shortlisted among the top 210 from over 1500 submissions worldwide and we were selected as one of the 25 general teams in the Central and South Asia Region.
- The aim of the project is to develop an educational application that will aid children in identifying common household objects in an interactive manner.
- The proposed architecture uses a pipeline of 3D panoptic segmentation and pose estimation to help the child in their ability to recognize and point towards objects by name.

Python OpenCV

Other Projects

- OCR Sudoku Solver
- Double DQN for Atari Pong in OpenAI Gym
- Text Cipher Algorithms in C++
- Object Detection in Real Time and in Images using YOLO v3
- Forest Cover Binary Classification using an Ensemble Model
- Russian AI Cup 2019 Bot (1st Round Qualified)

Technical Skills

Proficient	Python, C++
Comfortable	Shell, C#, Javascript, LaTeX
Basic Knowledge	MATLAB, Ruby, Typescript
Frameworks	PyTorch, TensorFlow, Keras, Angular, ReactJS
Tools	Git, NumPy, OpenCV, Pandas, Scikit-Learn

Achievements

Scholarships :

- **2017** • Uttar Pradesh Science Talent Search Exam **(UPSTSE) Scholarship** by Govt. of India

Competitions :

- **2020** • PyTorch Global Summer Hackathon : **First Runners-Up** in Web/Mobile Application Category out of **2,500 participants from 114 different countries**
- **2019** • Microsoft CodeFunDo++ Hackathon : **Only 2nd year team** in institute top 3
- **2019** • Microsoft Hackday 2.0 : First Runners-Up in institute

Miscellaneous

Technical Writer @ Towards Data Science | You can find my articles here
Student Guide | Mentored 8 freshmen through their first year
Hobbies | Drums (Performing member of the institute music society), **Quizzing** (Active member of the institute quiz club)
CS50x Puzzle Day | Solved 7 out of 8 problems in **Harvard's CS50x Puzzle Day 2020** which involved critical thinking, analytical skills and mathematics