

Arijit GUPTA

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 : 8.01/10 (7 semesters)

WORK EXPERIENCE

- July 2021 | **Microsoft | Software Engineer Intern**
May 2021
- Was part of the Microsoft Search, Assistance and Intelligence team, and worked on adding voice skills to a state-of-the-art chatbot
 - Added the complete pipeline for new, essential features to the bot, using TypeScript and Express to communicate with the bot and YAML to write training data
- TypeScript Express YAML
- July 2020 |
May 2020
- 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 | **Tessellate Imaging | Machine Learning Intern**
Feb 2020
- 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

RESEARCH EXPERIENCE

CUE RELIABILITY IN GRAMMATICAL GENDER PREDICTION

AUGUST 2021 - PRESENT

Supervisor :  Prof. Kenny Smith (University of Edinburgh)

- Generated vector representations based on contextual and formal properties of the words
- Experimented extensively on the usability of both types of vectors in a task of noun gender prediction

DEPTH ESTIMATION FROM MONOCULAR IMAGES

AUGUST 2020 - PRESENT

Supervisor :  Dr. A. Amalin Prince (BITS Goa)

- Inferring depth information from a single RGB image to infer scene geometry in 2D
- Implementing recent vision models not based on convolutions and evaluating their performance for the task
- Performing application specific processing for autonomous vehicles, and advanced driver assistance systems (ADAS)

MODEL OF LEXICAL DEVELOPMENT IN CHILDREN

JUNE 2020 - MAY 2021

Supervisor :  Dr. Veeky Baths (BITS Goa)  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

CONFERENCES AND WORKSHOPS

International CCCP (Cognition, Communication, Computation, and Perception) Symposium :

Dec 2020 • Organized by Institute for Cognitive Neuroscience, Higher School of Economics, Moscow

- Was one of the selected speakers at the iBrain Erasmus+ round-table, part of the 'Data Issues in Cognitive Neuroscience' track
- Spoke on issues in child language data with respect to availability and privacy among other aspects

SELECT PROJECTS

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

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	C#, Javascript, \LaTeX
Basic Knowledge	MATLAB, Typescript, Shell
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 :

- > 2021 • OpenCV Spatial AI Competition : Among the **top 210 finalists** from **over 1500** submissions worldwide and selected as one of the **25 general teams** in the **Central and South Asia** Region.
- > 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

CS50X PUZZLE DAY | Solved 7 out of 8 problems in **Harvard's CS50x Puzzle Day 2020** which involved critical thinking, analytical skills and mathematics

HOBBIES | **Drums** (Performing member of the institute music society), **Quizzing** (Active member of the institute quiz club)