

Shrey Tripathi

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[LinkedIn](#) | [Github](#) | [Portfolio](#)

Objective

Junior at IIITB. My research interests lie in the fields of NLP, Multimodal Perception, Software Engineering, and Blockchain protocols. I like to study about the applications of AI in real life.

Education

International Institute of Information Technology (IIIT) Bangalore <i>Integrated Masters in Technology, Computer Science and Engineering</i>	Aug 2019 – July 2024 CGPA 2.87/4.00
Airport School, Ahmedabad <i>Senior School (Class XII)</i>	April 2017 – May 2019 Aggregate 90.8%
Airport School, Ahmedabad <i>Secondary School (Class X)</i>	April 2015 – May 2017 CGPA 10.00/10.00

Research Experience

Automation of Application Processing using Graph Coloring Heuristics <i>Software Engineering Lab (SELab), IIIT Bangalore</i> Supervisor: <i>Prof. Sujit Kumar Chakrabarti</i>	May 2021 – Present
<ul style="list-style-type: none">We are developing an automated process for the processing of applications for recruitment in large organizations, involving two main aspects: panel creation and interview schedulingMy work involves studying and applying different graph coloring heuristics, including the Chaitin's Algorithm, Ant Colony Optimization, the Genetic Algorithm, Particle Swarm Optimization, etc. to schedule review/interview panels, to optimize the number of slots and schedule quality of different panels	

Work Experience

Teaching Assistant <i>Course: Programming - 1 (Python)</i> Instructor: <i>Dr. Milind Gandhe</i>	Nov 2021 – Present
Tezos India Fellow <i>Tezos India</i>	Aug 2021 – Oct 2021
<ul style="list-style-type: none">Developed the beta version of a decentralized cryptocurrency safekeeping application on top of the Tezos blockchain, that enables safe and transparent transfer of digital assets to predefined accounts in unprecedented scenarios of loss of private keys or user demiseSuccessfully built the frontend of the application using React, and integrated various end-points of the Smartpy backend with the frontend using the Taquito.js javascript library	
Associate <i>Web Science Lab (WSL), IIIT Bangalore</i>	Jan 2021 – May 2021
<ul style="list-style-type: none">Built the first version of a Capacity Based Access Control (CBAC) portal for the Indian Urban Data Exchange (IUDX) framework, under the supervision of Professor Srinath SrinivasaSuccessfully developed the basic functionalities from scratch, like user authentication, world initialization, role selection, role modeling, and role(privilege)-based data access	

Projects

AskReddit Troll Question Detection <i>Python, SkLearn, NLP</i> GitHub	Oct 2021 – Dec 2021
<ul style="list-style-type: none">Used Machine Learning algorithms to produce a model capable of automatically detecting troll questions on AskReddit, one of the most popular subreddits where users ask and answer thought-provoking questions, so that they can be flagged and removedDifferent pre-processing techniques included feature extraction using the bag-of-words model and word embedding using Word2Vec to form context-based vectors, along with stop-words removal, conversion to lower case, punctuation and numerical content removal, lemmatization and stemming, etc.Optimized various classification models through hyperparameter tuning to achieve an F1-score of 0.54 for the troll questions with an overall model accuracy of 0.95	
CryptoWill <i>React, SmartPy, TypeScript</i> Project	Aug 2021 – Oct 2021
<ul style="list-style-type: none">CryptoWill lets users store their cryptocurrencies in a decentralized "will", so as to prevent their holdings from becoming dormant in case of loss of private keys or user demiseContributed to the front-end of the application by developing the React app with Typescript, and then integrating it with the SmartPy endpoints and contract storage with the Taquito.js Javascript library	
Pagerank <i>Python</i> GitHub	July 2021 – Aug 2021

- Implemented a simplified version of the Pagerank algorithm which ranks a corpus of web pages by importance, by determining the probability that a web surfer is on a page at any given time
- Calculated pageranks of individual pages using two methods: Sampling (modelling the corpus as a Markov Chain where change of state occurs randomly from a previous page) and Iteration (using the Pagerank formula)

Depocalypse | *React, Solidity, IPFS, Ethereum* | [Project](#)

July 2021 – Aug 2021

- A decentralized NFT marketplace which lets users create their own NFTs and put them up in a marketplace. Functionalities include buying, selling, auctioning, and putting NFTs up for charity
- Contributed to the smart contract that stores NFT objects as structures, mints NFTs on IPFS, and emits events for creation of new NFTs, sale of NFTs and transfer of NFTs from one account to another

Tic-tac-toe | *Python, PyGame* | [GitHub](#)

May 2021 – Jun 2021

- Developed a tic-tac-toe AI using the minimax algorithm with alpha-beta pruning
- Implemented the minimax algorithm to optimize the score for each player, at each step of the game
- Optimized the runtime of the algorithm using alpha-beta pruning, by terminating the evaluation of a move when it makes sure that it is worse than a previously examined move

Technical Skills

Languages: Python, Java, C/C++, HTML/CSS, JavaScript, SQL (Postgres)

Frameworks: Django, Flask, Numpy, Pandas, SASS, Markdown, Bootstrap, LaTeX, Jekyll

Developer Tools: Git, GitHub, GitHub Actions, VS Code, Figma, Heroku, Docker, Vim

Relevant Coursework

Computer Science: Programming(C/C++/Python/Java), Data Structures and Algorithms, Design and Analysis of Algorithms, Machine Learning, Database Systems, Computer Architecture, Introduction to Automata Theory and Computability, Software Engineering, Computer Networks, Digital Design, Signals and Systems

Mathematics and Basic Sciences: Discrete Mathematics, Linear Algebra, Calculus, Probability and Statistics, Mathematics for Machine Learning, Computational Chemistry, Physics

Social Sciences: Economics, History of Ideas, Technical Communication

Awards and Honors

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| 2021 | LiFT Scholarship, The Linux Foundation
Tezos India Fellowship, Tezos India |
| 2020 | Academic Excellence Award (Academic years 2017-18 and 2018-19), Airport School, Ahmedabad |
| 2019 | Student of the Year (Academic year 2017-18), Airport School, Ahmedabad |
| 2017 | NTSE Scholarship, National Council of Educational Research and Training (NCERT) |

Presentations/Talks given

1. "Capacity Based Access Control and the Multiverse Framework"
Web Science Lab, IIIT Bangalore, 27th April, 2021

Clubs and Extracurricular Activities

- **Google Developer Student Club (GDSC) - IIIT Bangalore:** Lead of the GDSC, where we use Google's technologies to spread awareness about open-source in our institute and improve the culture through a community that tries to solve real-world problems that people may face in their day-to-day lives
- **Zense:** Member of the Software Development Club, where I work on and coordinate on various projects undertaken by the club to solve real-world problems
- **Enigma:** Member of the Robotics Club, where I made an autonomous line-follower and an autonomous edge-avoiding robot using the Arduino microcontroller, and am currently studying drone simulations in MATLAB-Simulink
- **Parvaaz:** Team Lead of the Dramatics and Theater Arts Club. Our group act ended up 2nd at Pravega 2020, organized by IISc Bangalore
- **8Bit:** Member of the editorial team of the official magazine of IIITB
- **Yamini:** Anchored Yamini 2019, the annual dusk-to-dawn traditional music/dance confluence organized by SPICMACAY, IIIT Bangalore chapter