

ADITI TIWARI

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EDUCATION

- University of Illinois, Urbana-Champaign (UIUC), USA** | Master of Science in Computer Science Aug 2022 - May 2024
◦ CGPA: 3.85/4.0 | Relevant courses: Computer Vision, Computational Photography, Autonomous Vehicle System Engineering
- Guru Gobind Singh Indraprastha University, India** | Bachelor of Technology (Computer Science and Engineering) Aug 2018 - Jul 2022
◦ CGPA: 9.4/10.0 | Relevant courses: Artificial Intelligence, Algorithms Design and Analysis, Database Systems, Operating Systems, Data Structures, Networking Systems and Computer Architecture

SKILLS

- **Programming Languages:** Python, C/C++, Java
- **Development:** HTML, CSS, JavaScript, React, Angular JS, MATLAB, Simulink, Selenium, Protractor
- **Machine Learning:** PyTorch, Tensorflow, NumPy, Computer Vision, CUDA
- Basic understanding of IoT and AWS (S3)

PUBLICATION

- Latency-Aware 360-Degree Video Analytics Framework for First Responders Situational Awareness - NOSSDAV 2023
Jiaxi Li, Jingwei Liao, Bo Chen, Anh Nguyen, Aditi Tiwari, Qian Zhou, Zhisheng Yan, Klara Nahrstedt

RESEARCH EXPERIENCE

- Coordinated Science Laboratory, UIUC, USA** | Graduate Research Assistant Sep 2022 - Present
◦ Collaborating with George Mason University on an NSF project for augmented 360° videos for situational awareness in firefighting.
◦ Comparing combination of existing algorithms (CNN-LSTM, CNN-FPN, 3D bag of words, faster RCNN) for action detection. Building an action recognition system for 360-degree firefighting videos. Average detection accuracy is 89%.
◦ Developing text-based model which accepts text prompts from user and displays result per requested prompt.
- Indian Institute of Technology (IIT) - Delhi, India** | Undergraduate Research Assistant May 2021 - Sep 2021
◦ Modeled unmanned aerial vehicle with LIDAR sensor for object detection using MATLAB and Simulink capable of rerouting course by self-plotting new waypoints and identifying obstructions.
◦ Average detection accuracy was 88.21%.

EXPERIENCE

- McAfee, Bangalore, India** | Technical Intern, UCE UI and Reporting Performance Improvement Team Aug 2021 - Dec 2021
◦ Optimized automation of HAR files and reduced processing time by 68% on McAfee MVision.
◦ Improved the front end of the customer query page using AngularJS and Javascript. Created dashboard to view/analyze results.
◦ Worked with Mosaic to define safe and unsafe user behavior using user telemetry. Used SQL to run queries developed for the same
- MEDSupervision, Delhi, India** | React Developer Intern Nov 2020 - May 2021
◦ Developed API to store information and added video calling features on website by utilizing react components and Twilio API.
◦ Analyzed and organized information from database. Created website admin portal to decrease search time and increased data fetch efficiency, thus improving the overall doctor-patient search outcome.
- JPMorgan Chase & Co, India** | Software Engineering Virtual Intern Feb 2020 - May 2020
◦ Set up local system for analysis of stock data using Python and revamped the stock data feed giving customized information to the traders using perspective. Used the JPMorgan Chase Framework, and updated client-side web application to display graphs that automatically updates as it gets data from server application.

PROJECTS

- Hand Tracking and Gesture Recognition for Automated VFX** (Project for UIUC CS 543) Oct 2022 - Dec 2022
◦ In a team of 4, developed a program to generate real-time VFX effects using gesture recognition/tracking and depth estimation.
◦ Trained CNN on HaGRID dataset for gesture recognition/tracking and used two-view stereo for depth estimation. Depth estimation is used to decide scaling/size of VFX effect, and whether or not it collides with objects when in the real world.
- Sentimental Analysis and Depression Detection in Tweets using Machine Learning** (B.Tech. Major Project) Jan 2022 - Jun 2022
◦ Predicted if user is depressed from nature of their tweets and network activity. Deployed 2 different models.
◦ First model used combination of logistic regression and naives bayes classification algorithm with accuracy of 74.3%.
◦ Second model used logistic regression and decision tree algorithm and produced the result with accuracy of 79%.

Diabetic Retinopathy(DR) Detection with Deep Learning (DL) (B.Tech. Minor Project)

Aug 2021 - Nov 2021

- Trained deep neural network based on CNN and residual blocks to detect type of DR from fundus images using a dataset of 3200 eye images (fundus photographs) and their corresponding severity scale. Implemented DL models were AlexNet and VGG16.
- Testing accuracy for AlexNet was 86.2%. Since the number of layers of this model are fewer than VGG16, the training time was less.

ENTREPRENEURIAL EXPERIENCE

PlusOne Ventures, Proprietor

Sept 2020 - Present

- An ISO certified, proprietorship firm registered with MSME (the Government of India) and recognized by the International Council of Accreditation Bodies. (Government of India Trade Mark number: 5029239)
- Provides computer programming assistance, computer consultancy, and outsources projects to social organizations that are working on computer literacy projects such as computer literacy ventures for underprivileged children with a main focus on empowering the young girls.

VOLUNTEER WORK AND AWARDS

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| ◦ Chapter lead at Anita.Org | 2021 |
| ◦ Campus Representative for GNIT at GGSIPU | 2021-2022 |
| ◦ Women International Network's Brand Ambassador of National Digital Literacy Mission, Govt. of India | 2020 - 2021 |
| ◦ Member of Women Who Code, Delhi | 2019 - Present |
| ◦ Founder and President of NSS, GNIT, GGSIPU. | 2019 |
| ◦ Head of the sports society of GNIT, GGSIPU. | 2018 |
| ◦ Board member, Women International Network, a non-profit organization based in Delhi and recognized globally | 2018 - Present |
| ◦ Internshala Student Partner for GGSIPU | 2018 - 2019 |