MEHER SHASHWAT NIGAM

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EDUCATION

Bachelor of Technology (Honours), Computer Science and Engineering

International Institute of Information Technology

Graduating May 2021 Hyderabad, India

CGPA: 9/10. Positions: TA for Digital Image Processing, Computer Vision

EXPERIENCE

Summer Analyst

Goldman Sachs

May 2020 – July 2020 Bangalore, India

- Interned in the Securities, Global markets division; with the single-stocks trading strats team, focused on the custom basket products business. Worked on increasing the daily analytics offered to clients in their portfolio performance reports.
- Streamlined and automated the generation of Index level attribution reports which was previously a partially manual process.

Undergraduate Researcher

Centre for Visual Information Technology (CVIT)

May 2019 – Present Hyderabad, India

- Working as a research student with Professor Ravi Kiran Sarvadevabhatla and Professor Madhav Krishna, on 3D computer vision tasks.
- Currently working on 3D dataset modelling and generation, for applications in affordance/free space estimation and robot navigation.

Computer Vision Intern

DreamVu Inc

May 2019 – July 2019 Hyderabad, India

- DreamVu has developed the world's first omni-stereo monocular camera hardware and software platform. Benchmarked the product on various applications to compare performance with similar products in the market.
- Created an SDK for future evaluation of camera output. Developed a tool to remove glare from stereo images using a novel heuristic.

Web Analytics Intern

Jio, Reliance

June 2018 – July 2018 Mumbai, India

- Worked in the Digital Analytics team for implementing analytics and tracking on the Jio website, mobile app.
- Implemented user behavior flows, product/offer performance trackers, campaign performance visualizations on products and services.

ACHIEVEMENTS

- Awarded Deans list for being in the top 5% of the batch
- Runner's up at World blockchain hackathon out of 1000 participants for proposed idea SkillWallet, currently under development.
- Runner's up at Megathon 2019 for the problem statement by PwC
- CBSE XII Boards Maharashtra topper, secured 98.2%
- Awarded KVPY fellowship under SA stream, secured AIR 205
- JEE Mains 2017: Secured 99.94 percentile among 1.4 million candidates
- JEE Advanced 2017: Ranked 2034 among 0.2 million candidates

SKILLS

Languages: Python, C, C++, MATLAB, Javascript, Golang

Machine Learning: PyTorch, Torchvision, Tensorflow, OpenCV, Numpy, Pandas, Sklearn, Matplotlib, CVXPY

Web Development: HTML, CSS, jQuery, Flask, Django, React, Node, Express, MySQL, DynamoDB, MongoDB, Serverless, S3 bucket, AWS Lambda

3D modelling/simulation: Unity, Blender, OpenGL, ROS

Misc: Git, Linux, Solidity, Bash, LATEX, SEO

RELEVANT COURSES

- Data Structures and Algorithms
- Operating Systems, Database Systems, Compilers
- Computer Networks, Information Security
- Artificial Intelligence, Statistical Methods in AI
- Optimization Methods, Information Theory
- Computer Vision, Robotic Vision and Planning
- Digital Image Processing, Graphics
- Securities and Derivatives, Financial Markets
- Blockchain networks and protocols

PUBLICATIONS

1. Meher Shashwat Nigam et al.: *RackLay: Multi-Layer Layout Estimation for Warehouse Racks*. Under review in: *International Conference on Intelligent Robots and Systems (IROS), 2021*
2. Stanislava Fedorova et al.: *Synthetic 3D Data Generation Pipeline for Geometric Deep Learning in Architecture*. Under review in: *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS), 2021*

PROJECTS

Blockchain Certificate Verification system

Decentralized System for Certificate Verification using Blockchain, built using Solidity, deployed on Ganache

Reflection Removal using Ghosting Cues

MATLAB implementation of paper titled, *"Reflection Removal using Ghosting Cues"*

Foreground extraction using GrabCut

Python implementation of SIGGRAPH 2004 paper titled, *"GrabCut"* for foreground identification/extraction

Stereo Reconstruction and Pose Estimation

Generated 3D point cloud from a stereo image sequence, retrieved the pose of an arbitrary camera using iterative PnP and gauss-newton minimization

Game/Simulator development

3D aircraft simulator in C++ using OpenGL.2D Jetpack Joyride in OpenGL, Subway surfers clone in WebGL. Implemented motion control, collision detection, textures.

Automated video slide matching

Developed a pipeline for matching frames from a video lecture with the corresponding slide of the presentation used. Achieved 95% accuracy on the dataset.