Rishav

LinkedIn | Email | GitHub | Website | Google Scholar

Education

Jan 2024-Present	MSc. in Computer Science **Mila - Quebec AI Institute**, Montreal, Canada
Aug 2016-Aug 2020	Bachelor of Engineering in Computer Science **Birla Institute of Technology & Science (BITS Pilani)**, Pilani, India

Work Experience

Aug 2022-Jan 2024 — Co-Founder & CTO at Offside, Bengaluru, India

As Co-Founder and CTO of **'Offside'**, I led its development, merging **product** and **tech leadership**. I designed its **scalabe architecture** and key features including a **real-time prediction system, chat, reels, real time scorecard**, utilizing **AWS**, **DevOps**, **Redis**, and **Elastic Search**. I innovated with **Elastic Search** for fuzzy search capabilities and used machine learning for user recommendations. Raised $300k and scaled the user base to $100k. Media: [100x.VC, Crunchbase, Pitchbook]

Jan 2021-Aug 2022 — Research Engineer at DFKI, Kaiserslautern, Germany

Contributed significantly to two major industry projects: **Spot Spraying with Hydac** and **Post OCR Localization with Insiders Tech**, from inception to production. In the Spot Spraying project, I developed a robotic system for detecting and localizing weeds and crops for effective use of weedicides/fertilizers. In the Post-OCR project, I created a dataset and then trained a machine learning model to refine OCR box predictions using an object detection approach.

Reference: Prof. Dr. Didier Stricker

July 2020-Jan 2021 — Software Engineer at Wells Fargo, Hyderabad, India

Built a real-time dashboard for monitoring of ETL jobs involving several terabytes of Wells Fargo's everyday financial data, a task that was done manually previously - the dashboard helped in quick decision making and localizing critical issues. Lead mutiple version transfer projects including that of Wells Fargo's trading software.

May 2019-Dec 2019 — Research Intern at DFKI, Kaiserslautern, Germany

Worked on Deep Learning for Scene Flow Estimation in Autonomous Vehicles under Prof. Dr. Didier Stricker for my bachelor thesis, parts from the work were accepted at ICPR-2020 & IROS-2020.

Reference: Prof. Dr. Didier Stricker

Aug 2018-April 2019 — Researcher at Pixxel, Bengaluru, India

Worked on using time series hyper spectral imagery to predict crop yields. Discussed and presented our work at ISRO.

Publications

IROS 2020 — DeepLiDARFlow: A Deep Learning Architecture For Scene Flow Estimation Using Monocular Camera and Sparse LiDAR.

Rishav*, Ramy Battrawy*, René Schuster, Oliver Wasenmüller, and Didier Stricker

ICPR 2021 — ResFPN: Residual Skip Connections in Multi-Resolution Feature Pyramid Networks for Accurate Dense Pixel

Rishav*, Ramy Battrawy*, René Schuster, Oliver Wasenmüller, and Didier Stricker

Skills

Languages	Python, C++, Javascript.
Frameworks	Tensorflow, PyTorch, JAX, NodeJS, Redis, AWS, GCP, Docker, TensorRT.
Reviewer	TPAMI, IROS, ICPR.

Academic Projects

DeepLiDARFlow — Monocular camera and sparse LiDAR for scene flow.
Bachelor thesis; worked on scene flow estimation using monocular camera & sparse LiDAR, work from the thesis has been accepted at two conferences. [Code]

CycleGAN stereo — Cross spectral stereo matching
PyTorch implmentation of the paper [Unsupervised Cross-spectral Stereo Matching by Learning to Synthesize] The method uses CycleGAN to learn translation from one spectrum to the other and then uses it to train a stereo matching network based on unsupervised loses. [Code]

GANVO — Visual odometry for estimating depth
Unofficial pytorch implementation for GANVO - it uses visual odometry for estimating depth. This work remains one of the very few GAN based work on visual odometry. [Code]

HSID-CNN — Cleaning Hyperspectral Images
Worked on Deep Learning for cleaning and extraction of useful bands in hyperspectral images, Implemented HSID-CNN in tensorflow for denoising hyperspectral images (AVIRIS). [Code]

Compiler — Compiler for a language specification in C
Constructed a compiler for a given language specification in C language, this included the development of lexer, parser, semantic-analyzer, code-generator. [Code]

SHM — Structural Health Monitoring using time series data.
Implemented an auto-regressive model for feature extraction from time series sensor data used those features on several unsupervised algorithms like one-class SVM for final health classification. [Code]

Awards

2024	Awarded a scholarship of $33000 per year to pursue graduate studies at Mila.
2022	Selected to IEEE RAS Young Reviewers Program.
2016	Obtained 99.90 percentile in JEE Mains, a test taken for entrance to premier Indian Institutes by 1.2 million students.
2014	Awarded the prestiguous NTSE scholarship in 2014.