Russel Shawn Dsouza

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EDUCATION

Masters, Artificial Intelligence & Machine Learning
University of Birmingham, UK — *2022 – 2023*

Bachelors, Electronics & Communications Engineering
National Institute of Technology Karnataka, India — *2017 – 2021*

K-12
Little Rock Indian School, India — *2004 – 2017*

SKILLS

Languages: Python, Java, C, C++, SQL, JavaScript, Go, MATLAB

Frameworks: PyTorch, Keras, OpenCV, scikit-learn, Numerical & Scientific Python

Hardware: Verilog, ngSPICE, Arduino, Xilinx Artix

DevOps: git, Docker, bash, vim, Linux

RESEARCH INTERESTS

Real-Time Computer Vision for Augmented Reality, Information Retrieval
Adversarial Natural Language Processing, Neural Hashing

EXPERIENCE

Research Intern
CMInDS and CSRE, IIT Bombay — *May 2021 – Sep 2021*
– Designed and developed novel model variants with vision transformers & CNNs for the multi-modal, pixel-wise classification of land-use from hyperspectral & LiDAR satellite imagery.
– Improved model peak-performance by over 10% through the use of state-of-the-art Bayesian hyper-parameter optimisation.

Winter Research Intern
Deep Learning Lab, NIT Karnataka — *Dec 2020 – Mar 2020*
– Implemented state-of-the-art models and set up data pipelines for the nuclear segmentation of cells in histopathology images of kidney and liver tissues.
– Collaborated on the detection of *Urothelial Carcinoma* from whole slide images of bladder tissues with an average size of 4 billion pixels.

Summer Research Intern
Deep Learning Lab, NIT Karnataka — *May 2019 – Jul 2019*
– Revamped and maintained data pipelines for image segmentation and classification models.
– Refined efficient implementations of classical image processing algorithms on large datasets.

Selected as a **full-time research intern** at the Robert Bosch Center for Cyber-Physical systems, Indian Institute of Science, Bangalore, India's top research university, to work on "Simultaneous Localization And Mapping SLAM". — *July 2020*

Selected for a **funded research internship** at the Haute école du paysage, d'ingénierie et d'architecture de Genève, Haute Ecole Spécialisée de Suisse occidentale, Geneva to work on "NavTrack: A portable obstacle tracker for the rehabilitation of spatial neglect" — *Mar 2020*

Frontend Developer and UI Designer
IRIS, NIT Karnataka — *Aug 2018 – Apr 2019*
– Debugged and maintained parts of the frontend code at the official student portal for the university with over 10k daily active users including students, professors and administrators.
– Spearheaded the integration of frontend JavaScript with legacy Rails code.

NOTABLE PROJECTS

Evaluating adversarial alignment-subversion in language models
Master's Dissertation — *Jul 2023 – Sep 2023*

Low Light Image Enhancement on Low Power Devices
Bachelor's Project — *Aug 2020 – May 2021*