Russel Shawn Dsouza

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EDUCATION

Master of Science, Artificial Intelligence & Machine Learning
University of Birmingham, UK *2022 – 2023*

Bachelor of Technology, 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, Numeric & Scientific Python
Web Dev: NodeJS, ExpressJS, postgreSQL
Hardware: Verilog, ngSPICE, Arduino, Xilinx Artix
Tools: git, Docker, bash, vim, Linux

RESEARCH INTERESTS

Real-Time Computer Vision for Augmented Reality
Image and Video Retrieval, Neural Hashing

RESEARCH AND WORK EXPERIENCE

Research Intern
CMInDS and CSRE, IIT Bombay *May 2021 – Sep 2021*
– Designed & 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 search times with state of the art Bayesian hyperparameter 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 nuclear segmentation in histopathology images of kidney and liver tissues.
– Collaborated on the detection of Urothelial Carcinoma from whole slide images of bladder tissues with average dimensions of 80000×50000.
– Built an open-source project benchmarking segmentation models on histopathology datasets.

Summer Research Intern
Deep Learning Lab, NIT Karnataka *May 2019 – Jul 2019*
– Revamped and maintained data pipelines for deep learning based image segmentation and classification models.
– Refined efficient implementations of classical image processing algorithms on large datasets.
– Conducted in-depth literature surveys and reproduced results from seminal papers in the field of automated histopathology.

Frontend Developer and UI Designer
IRIS, NIT Karnataka *Aug 2018 – Apr 2019*
– Debugged and maintained parts of the frontend code at IRIS — The official student portal with over 10k daily active users: a diverse group of students, professors and administrators.
– Developed the design system in Vue.js and spearheaded the integration of frontend JavaScript with legacy Rails code.

HONOURS

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*