Abel Rajesh

Citywest, Dublin | Email | +353 89 495 8035 | LinkedIn

Personal Profile

Final-year Physics with Data Analytics student at Dublin City University (Expected 1.1), specialising in Python development, AI/ML and data infrastructure. Experienced in image processing pipelines, clustering algorithms and machine learning model training. Proven ability to work independently or in agile teams to deliver production-ready solutions. Passionate about building robust AI systems and contributing to next-generation agent-based infrastructure.

Technical Skills

- **Programming Languages:** Python, MySQL, HTML & CSS
- **Libraries:** NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, OpenCV
- **Software / OS:** MS Office, Power BI, FreeCAD, Jupyter Notebook, GitHub, Microsoft, Linux

Education

Dublin City University   **2022 - 2026**
Bachelors in Physics with Data Analytics: Expected 1.1

Relevant Modules: Digital and Analogue Electronics, Advanced Programming, Databases and Data Visualisation, Machine Learning, Machine Learning in Context

Project(s):

Kolmogorov Flow Simulation & Data Processing: Designed and implemented a Python-based backend for Lagrangian particle tracking, vorticity computation and Reynolds number analysis. Developed an image processing pipeline using trackpy and OpenCV to extract particle trajectories from Raspberry Pi camera footage. Collaborated on hardware assembly and soldering, integrating sensors for automated data capture.

Principal Component Analysis (PCA) for Iris Classification: Applied dimensionality reduction and eigen decomposition to classify multi-variable data. Built Python scripts for data preprocessing, standardisation and visualisation, achieving clear class separation in PCA space. Delivered findings through a live technical presentation to peers and faculty.

Rockbrook Park School, Dublin   **2016 – 2022**
Leaving Certificate: 542 Points

Work History

Tomra Sorting Ltd.   **February 2025 – August 2025**
R&D Intern

- Engineered HSV colour space conversion and DBSCAN clustering for object separation in almond sorting systems.
- Designed and deployed a low-dimensional classifier comparing SWIR and Vis-NIR imaging performance
- Performed image labelling for deep learning model training, improving model accuracy to 97%
- Designed, modelled and fabricated custom 3D components for system testing
- Developed a Python GUI using Tkinter for real-time control and monitoring of a PSU

Uniphar Group, Dublin 24   **July 2022 – February 2025**
Warehouse Operative

- Collaborated with supervisors and colleagues to confirm operations ran smoothly
- Catalogued general stock and ensured the placement of items in designated areas
- Conducted routine inspections of incoming and outgoing pharmaceuticals
- Maintained a clean and safe warehouse environment

Certifications / Achievements

• Represented South Dublin and received 3 medals in Irish International Taekwondo Competitions
• Completed grade four in guitar with Trinity College London
• Received full driver's licence in 2023

Interests

• Active in fitness: attend Energie Fitness gym four times weekly
• Teach guitar to children in the local community
• Practice Taekwondo and Judo; regularly participate in club sessions
• Swim weekly at Tallaght Leisure Centre

Languages

• Intermediate proficiency in Spanish and Irish from secondary level education
• Fluency in Malayalam as it is my native language

References

Available on Request