

PUSHKAR KODIGEHALLI UMESH

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SUMMARY

MSc student in Electronic Communications and Computer Engineering at the University of Nottingham, specialising in machine learning and software development. Implemented neural network models from first principles in MATLAB, including perceptron learning and multi-class classification. Built a production-style iOS app using SwiftUI and SwiftData, and deployed a personal portfolio website. Completed AWS fundamentals training with exposure to cloud infrastructure and core services. Comfortable across the full development cycle — from model design to deployment and testing.

EDUCATION

MSc Electronic Communication and Computer Engineering *University of Nottingham, 2025 – 2026*

Relevant modules:

- Artificial Intelligence and Intelligent Systems — neural networks, classification, ANN design
- Advanced Computational Engineering — algorithm design, numerical methods, MATLAB
- Scalable Cross-Platform Software Design — software architecture, cross-platform systems
- HDL for Programmable Devices — hardware-software interface, VHDL

BSc Physics, Mathematics and Electronics *CHRIST (Deemed to be University), India, 2021 – 2024*

Relevant modules:

- Embedded Systems and IoT Fundamentals — microcontrollers, sensor integration, C programming
- Digital Signal and System Architecture — DSP theory, signal analysis
- Communication Electronics — signal transmission, modulation

Supporting study in Real Analysis, Discrete Mathematics, and Differential Calculus built strong quantitative foundations for algorithm design and data analysis.

PROJECTS

MSc Dissertation: AI-Based GNSS Interference Detection *University of Nottingham, 2026*
Supervised by Dr. Minglei You

- Collecting raw GNSS signal data from a hardware receiver to build a labelled dataset of interference scenarios (jamming, spoofing, clean signal).
- Engineering signal-domain features (C/N0, AGC voltage, fix) for machine learning classification.
- Training and evaluating classifiers (Random Forest, SVM, neural network) for interference detection, with multi-class classification and accuracy-improvement regression as extended objectives.

Neural Network Coursework *University of Nottingham, 2026*

- Implemented the Perceptron Learning Law from first principles in MATLAB to train a binary NOR gate classifier, with manual weight update logic and convergence verification.
- Analysed decision boundaries and misclassification rates, producing plots to compare model performance across iterations.

LivingSolo — iOS App *Personal Project, Jan 2026 – present*

- A full-stack iOS app for individuals living alone, covering kitchen inventory tracking, personal expense management, and to-do organisation.
- Integrated SwiftData for persistent local storage with secure.

Created a static personal website at pushkarku.com to showcase projects, skills, and a CV.

- Built and deployed a multi-page static portfolio website using HTML and CSS, hosted via GitHub Pages with a custom domain (pushkarx17.online).
- Showcases projects, skills, and a downloadable CV — maintained as a live, publicly accessible reference for job applications.

RFID Gate System & Mini Elevator System *CHRIST University — Final Year Project* April 2024

- Programmed Arduino microcontrollers in C++ for real-time I/O, motor control, and sensor handling.
- Integrated LCD display and relay logic, gaining practical experience in hardware-software interfaces.

WORK EXPERIENCE

GeoAI Intern *Geospatial Ventures Limited (GVL), Nottingham, UK* June 2026

- Developed Python pipelines to process and analyse GNSS, RINEX, NMEA, and sensor datas.
- Performed data cleaning, statistical analysis, and geospatial visualisation using QGIS and SNAP.
- Developed machine learning models for soil moisture and station uptime prediction.

Data Engineer, *Micro Placement, University of Nottingham x Practera,* June 2026

- Audited and reconciled two heterogeneous spreadsheet-based data systems, profiling 300+ records across 40+ fields to quantify data quality, field adoption, and schema drift.
- Developed a framework to compare legacy and current inventory systems, classifying 40+ data fields as Keep, Remove, Reintroduce, or Modify to support consolidation into a simplified data model.

Freelance Technical Support Engineer *Infosys, Leeds, UK* March 2026

- Assisted in the on-site installation and configuration of a Cisco Board Pro 52 G2 enterprise videoconferencing system in a corporate environment.
- Gained hands-on exposure to enterprise-grade AV and networking infrastructure, including cable management, device configuration, and system testing.

SKILLS

- **Languages:** Python, Swift (SwiftUI, SwiftData), C, C++, HTML, CSS, SQL (MySQL)
- **ML & Data:** MATLAB, Neural Networks, Classification, NumPy (basic), Data Analysis
- **Cloud & DevOps:** AWS (fundamentals), GitHub, Git, GitHub Pages
- **Mobile & Frontend:** SwiftUI, SwiftData, Xcode, iOS Development
- **Tools & IDEs:** VS Code, Xcode, MATLAB, Vivado, Final Cut Pro
- **Soft Skills:** Problem-solving, Attention to detail, Self-directed learning, Team collaboration

TRAINING & CERTIFICATIONS

- AWS Fundamentals – Magic Bus India Foundation (Nov 2024 – Feb 2025)
- IT Fundamental and Job Skilling Programme – Magic Bus India Foundation (Feb 2025)
- Final Cut Pro Essential Training – LinkedIn Learning May 2025.
- Information Technology Fundamentals – IBM SkillsBuild (Feb 2025)
- Cybersecurity Fundamentals – IBM SkillsBuild (Feb 2025)

References

- References available on request.