

# Khondaker Tasrif Noor

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## PROFILE

 [ktnoor.github.io](https://github.com/ktnoor)

A highly competent researcher with a strong focus on deep learning, specifically experienced in neural network architecture design, algorithm implementation, and advanced AI model and system testing. I have strong communication and project planning skills within collaborative team environments. My PhD research focuses on innovative neural network methodologies, and I am pursuing a career to leverage my research, technical, and design expertise within artificial intelligence systems to unlock commercial value.

## EMPLOYMENT EXPERIENCE

### Deakin University — Doctor of Philosophy in Information Technology

October 2025

Obtained a Doctor of Philosophy degree in Information Technology, with research focused on developing deep learning models for image classification. This work was supported by the Deakin University Postgraduate Research Scholarship (DUPRS) and resulted in multiple peer-reviewed publications in internationally recognised conferences and journals. The research developed novel neural network architectures and training algorithms to enhance the performance and efficiency of deep learning models in computer vision applications.

### Macquarie University — Master of Engineering in Electronics Engineering

November 2019

Attained a Master of Engineering degree with a specialisation in Electronics Engineering, earning the Vice-Chancellor's International Scholarship. Gained in-depth knowledge in analogue and digital electronics, and developed technical and practical skills in electronic systems and circuit design through hands-on projects completed as part of the coursework.

## EMPLOYMENT EXPERIENCE

### Graduate Researcher Teaching Fellow — Deakin University, Waurn Ponds, VIC, Australia

Sep 2022 – Current

I am currently working as a Graduate Researcher Teaching Fellow, contributing to the Deep Learning (SIT319, SIT744), Artificial and Computational Intelligence (SIT215) and Object-Oriented Programming (SIT232) units. My role involves:

- Conducting workshops, addressing queries, assessing assignments, and providing student feedback.
- Designing, demonstrating, and explaining deep learning models using PyTorch, Keras and TensorFlow.
- Providing academic consultations and contributing to the development of course materials.

### Firmware Engineer — EMVision Medical Devices Ltd, Macquarie Park, NSW, Australia

Mar 2021 – Sep 2021

EMVision is an innovative medical device company developing portable electromagnetic microwave imaging solutions. My responsibilities included:

- Developing and validating device testing plans, and documenting product specifications and protocols.
- Designing a GUI for device testing and automating the test bench analysis process for efficiency.
- Researching emerging technologies and optimising workflows to enhance testing processes and innovation.

### Testing Engineer — RF Technology, Thornleigh, NSW, Australia

Feb 2020 – Dec 2020

RF Technology is a leading Australian manufacturer of wireless communication products. My responsibilities included:

- Programming, testing, and ensuring quality for digital radios, power amplifiers, and power supplies.
- Documenting, implementing, and verifying comprehensive testing processes for all products.
- Enhancing product quality by refining hardware and guiding the production team with status updates.

## RESEARCH AND PROJECTS

- **Publications:** I have original research published to top-tier conferences and journals. Key publications include:

- ▶ [Taxonomy-Guided Routing in CapsNet for Hierarchical Image Classification](#), Knowledge Based Systems (2025).
- ▶ [H-CapsNet: A Capsule Network for Hierarchical Image Classification](#), Pattern Recognition (2024).
- ▶ [A Consistency-Aware Deep Capsule Network for Image Classification](#), HMC, Neurocomputing (2024).
- ▶ [A Bottom-Up Capsule Network for Hierarchical Image Classification](#), DICTA (2023).
- ▶ [A Capsule Network for Hierarchical Multi-label Image Classification](#), S+SSPR (2022).

- **Key Projects:** I have delivered notable research and industry-oriented projects, most notably:

- ▶ Designing Deep Neural Architectures tailored for hierarchical multi-label classification.
- ▶ Developing a GUI-Based Automation System for testing medical devices.
- ▶ Smart Sun Exposure: Enabling wireless UV sensing for personalised sun exposure monitoring.
- ▶ Designing and Implementing a Reconfigurable Antenna for wireless communication.

## SKILLS AND EXPERTISE

### SOFTWARE AND TECHNICAL SKILLS

- **Documentation and Office Tools:** Proficient with Microsoft Office Suite and LaTeX for professional documentation and record keeping.
- **Machine and Deep Learning:**
  - ▶ Skilled in classical ML (scikit-learn) for regression, classification, clustering, and dimensionality reduction.
  - ▶ Proficient in deep learning frameworks (PyTorch, Keras, TensorFlow) for building and training neural networks.
  - ▶ Strong theoretical grounding in optimization algorithms (SGD, Adam, AdamW, RMSprop, etc.), probability/statistics, backpropagation, and advanced loss functions.
- **Data Analysis and Visualisation:** Experienced in data wrangling and feature engineering with Pandas, NumPy, and visualisation using Matplotlib or Seaborn.
- **GPU Computing and Cloud Infrastructure:** Working knowledge of NVIDIA CUDA for accelerated model training and inference, with experience in cloud computing platforms (AWS, Google Cloud, Azure) for scalable AI/ML workloads and distributed computing.
- **Programming Languages:** Working knowledge of Java, C++, Python, and MATLAB for algorithm development, data analysis, and numerical computing.
- **Version Control and Collaboration:** Proficient in Git (GitHub, GitLab) and CI/CD workflows for collaborative software development.
- **Embedded Systems and MCU/MPU:** Programmed and prototyped solutions using Arduino and Raspberry Pi, integrating sensors, actuators, and peripheral modules.
- **Hardware Prototyping:**
  - ▶ Designed schematics and PCBs using Altium (including BOM, pick-and-place files, 3D models).
  - ▶ Oversaw PCB fabrication, component soldering/assembly, and conducted functional testing.
- **Digital Electronics and FPGA Design:**
  - ▶ Implemented digital logic with Xilinx ISE, Electric VLSI, and LTspice.
  - ▶ Prototyped and validated designs on FPGA boards for functionality and timing.
- **Electronics Simulation, RF and Antenna Design:** Modeled, designed and analysed electronic systems with AWR, Proteus, PSpice, PSim, CST Studio etc.

### PROFESSIONAL AND INTERPERSONAL SKILLS

- **Teamwork and Collaboration:** Collaborated effectively in academic and workplace settings, balancing individual tasks and group dynamics to achieve project objectives.
- **Leadership:** Led multiple academic projects, guiding team members and ensuring successful deliverables for high-profile events.
- **Public Speaking and Presentation Skills:** Delivered numerous presentations in coursework and competitions, including research findings at international conferences and workshops.
- **Adaptability and Quick Learning:** Quickly acquired new technical skills and processes in various roles, adapting to new environments and challenges with ease.
- **Problem-Solving and Critical Thinking:** Skilled in diagnosing and resolving complex technical issues, ensuring optimal performance and reliability.

### RESEARCH AND INDUSTRY KNOWLEDGE

- **Research Skills:** Proficient in advanced methodologies, experimental design, data analysis, and literature reviews.
- **Electronics Test Equipment:** Skilled in operating and analysing data from RF spectrum analysers, vector signal analysers, high-speed oscilloscopes, and RF test sets.
- **RF Implementation and Regulatory Compliance:** Hands-on experience in designing, testing, and analysing RF modules, including regression testing and certification procedures to meet regional regulatory standards.
- **Project Management:** Proficient in planning, coordination, and execution of academic and professional projects, ensuring timely delivery and quality outcomes.

## ADDITIONAL INFORMATION

- Successfully participated and completed “*Empowering Innovative Leaders Program, (2024)*” at Deakin University.
- **Certifications:**
  - ✳ Mathematics for Machine Learning (2025).
  - ✳ Battery Management Systems (2024).
  - ✳ Professional Engineer (Engineers Australia, 2023).
  - ✳ TensorFlow Developer (DeepLearning.AI, 2022).
  - ✳ IT Automation with Python (Google, 2022).
  - ✳ AI Engineering (IBM, 2021).
  - ✳ Digital Systems (UAB, 2021)
  - ✳ Specialisation in Programming the IOT (UCI, 2020).
- **Peer Reviewer:** Reviewed papers for conferences such as KSEM, AICCSA, ECAI, PAKDD and journals such as Pattern Recognition, Information fusion, Neurocomputing, Neural computing and applications, and MethodsX.

## REFERENCES

**Prof. Antonio Robles-Kelly,**  
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