Khondaker Tasrif Noor

Geelong, VIC, 3220, Australia

+61 4 5073 5474 | ktnoor.ai@gmail.com, | linkedin.com/in/tasrif-khondaker/ | 0000-0002-4259-9539

PROFILE

ktnoor.github.io

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.

EDUCATION

Deakin University — Doctor of Philosophy *Current*

Pursuing a PhD in Information Technology with a research focus on developing deep learning models for image classification. Recipient of the prestigious Deakin University Postgraduate Research Scholarship (DUPR). Published multiple research papers in top-tier conferences and journals. My anticipated completion date is July 2025.

Macquarie University — Master of Engineering in Electronics Engineering *November 2019*

Achieved Vice-Chancellor's International Scholarship and completed a Master of Engineering degree with a specialisation in Electronics Engineering. Gained in-depth knowledge in the areas of analogue and digital electronics. Adapted technical and practical skills for electronic systems and circuit design by completing electronic projects as a part of coursework.

EMPLOYMENT EXPERIENCE

Sessional Academic — Deakin University, Waurn Ponds, Australia *Sep 2022 – Current*

I am currently working as a sessional academic staff member, contributing to the Deep Learning (SIT319, SIT744) and Artificial and Computational Intelligence (SIT215) units. My responsibilities include:

- Designing, demonstrating, and explaining deep learning models using PyTorch, Keras and TensorFlow.
- Addressing student queries to enhance their understanding and engagement.
- Providing academic consultations and contributing to the development of course materials.

Firmware Engineer — EMVision Medical Devices Ltd. *Mar 2021 – Sep 2021*

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

- Inspecting, developing, and validating device testing plans.
- Designing a GUI for device testing and automating the test bench analysis process.
- Documenting product specifications, installation procedures, and testing protocols.
- Researching emerging technologies and optimising processes to improve testing workflows and foster innovation.

Testing Engineer — RF Technology *Feb 2020 – Dec 2020*

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

- Programming, testing, and ensuring the quality of digital radios, power amplifiers, and power supplies.
- Documenting, implementing, and verifying testing processes for all products.
- Enhancing product quality by refining hardware designs and advancing RF module expertise.
- Guiding the production team and ensuring timely product 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 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:**
  - 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).
  - PCB Designing (Udemy, 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

Wei Luo
Associate Professor,
School of Information Technology,
Deakin University, Australia.
+61 3 924 46509
wei.luo@deakin.edu.au

Mohamed Reda Bouadjenek
Senior Lecturer,
School of Information Technology,
Deakin University, Australia
+61 3 522 78380
reda.bouadjenek@deakin.edu.au

Adnan Anwar
Senior Lecturer, Cybersecurity
School of Information Technology,
Deakin University, Australia
+61 3 522 73679
adnan.anwar@deakin.edu.au