Prenesh Krishnan Ph. D

1B-2-A, Taman Leader Garden, Jalan Chee Seng 13,
Tanjung Bungah, 11200, Pulau Penang

Project Management | AI | Visual Computing | Data Science | Machine Learning | Deep Learning | Research | Software Development | Freelance Corporate Trainer

OVERALL EXPERIENCE – 17+ YEARS

INDUSTRY WORK EXPERIENCE – 9+ YEARS

Micron Memory Malaysia | Penang, Malaysia
Sr. Smart Manufacturing Data Scientist (SMAI) | July 2022 – Present | 1 year 4 months (as of Nov 2023)

- Project scheduling, resource identification, scheduling budget proposals, requirement gathering along with technical content development for deep learning certification courses.
- Proficient in Image Processing, Computer vision, NLP and Time series using PyTorch, TensorFlow, ML.NET, DL4J and Scikit learn.

Projects:

1. Data Collection, Model Development, Model Deployment and Model Maintenance for Computer Vision use cases.
2. Manage projects related to smart manufacturing and produce more yield.
3. Projects related to Internet of things (IOT) in manufacturing line.
4. Develop and maintain applications using C#, HTML and python for Video Analytics Projects.

Skymind Global | Penang, Malaysia
Artificial Intelligence (AI) Trainer and Consultant | November 2020 – June 2022 | 1 year 7 months

- Project scheduling, resource identification, scheduling budget proposals, requirement gathering along with technical content development for deep learning certification courses.
- Proficient in Image Processing, Computer vision, NLP and Time series using DeepLearning4J, PyTorch, TensorFlow and Scikit learn.
- Libraries familiar with: Scikit-learn, Pandas, NumPy, Matplotlib, NLTK, SpaCy, OpenCV, TensorFlow, PyTorch.

Projects:

1. Deployed OCR modules using Tesseract and Google Cloud Vision API for manufacturing client.
2. Developed MDP modelling of inventory management system at an automotive firm.
3. Developed Objected Detection models and fined tuned using transfer learning to detect pot holes for a highway operator client.
4. Developed CV and time series models using TensorFlow and PyTorch and deployed in Cloud.
5. Developed several Image Classifier AI Mobile Apps using Flutter and deployed and tested on Android Smartphones.

Universiti Kuala Lumpur Malaysian Spanish Institute | Kulim, Kedah, Malaysia
Post-Doctoral Researcher | December 2018 – October 2020 | 1 year 11 months

- Managed projects for government funded research projects.
- Conceived ideas for Driving simulator and formulated two research proposals and secured fundamental and prototype research grants.
- Conduct short courses on signal processing, machine learning and deep learning.
- Developed AI models using Image sensors, physiological sensors and wearable sensors.

Universiti Kuala Lumpur Malaysian Spanish Institute | Kulim, Kedah, Malaysia
Researcher | November 2016 – October 2018 **|** 2 years

- Setup Intelligent Automotive Systems Research Cluster,
- Driver drowsiness detection using physiological signals
- Managed several machine learning projects to cater the needs of the Research Cluster
- Developed ML models for speech recognition and developed IOT projects,

Aegis Technologies | Bengaluru, Karnataka, India
Senior Software Engineer | March 2006 – November 2007 | 1 year 8 months

- Design, Development and Deployment of Web Applications using HTML, JavaScript, PHP, Design and Maintenance of Databases using Informix and SQL Server.
- I was involved in preparing and maintaining Technical Documentation.

Trioz Technologies | Coimbatore, Tamilnadu, India
Software Engineer | May 2005 – December 2005 | 8 months

- To interface the GDB server from host ARM 9 [TS 7250] board to the client machine.
- I involved in setting up of CVS Repositories, Linux Porting, Kernel compilation and net booting.

TEACHING AND RESEARCH EXPERIENCE - 8 YEARS

KGISL Institute of Technology | Coimbatore, Tamilnadu, India
Assistant Professor | July 2011 – February 2012 | 8 months

- Taught subjects: Fundamentals of Programming and C; Service Oriented Architecture; Cloud Computing to B. Tech IT students.
- Coordinated Job Placement activities for the department of information technology.

Universiti Malaysia Perlis | Arau, Perlis, Malaysia
Graduate Assistant | November 2015 – October 2016 | 1 year

- Grant writing, research project management and
- lecturers, research activities and mentoring graduate student projects
- I was involved in mentoring final year graduate and postgraduate students.

Universiti Malaysia Perlis | Arau, Perlis, Malaysia
Graduate Research Assistant | July 2012 – October 2015 | 3 years 4 months

- Assisting lecturers, research activities and mentoring graduate student projects.

Universiti Malaysia Perlis | Arau, Perlis, Malaysia
Graduate Research Assistant | March 2008 – March 2011 | 3 years

- Assisting lecturers, research activities and mentoring graduate student projects
- Involved as an active committee member at the International Conference on Man-Machine Systems (ICOMMS 2009) conducted by School of Mechatronic Engineering, Universiti Malaysia Perlis.

EDUCATION

Doctor of Philosophy (Mechanical),	Master of Science (Mechatronics),	Bachelor of Technology (Information Technology)
Jul 2012 - Oct 2017	Mar 2008 - Mar 2011	Jul 2001 - May 2005
University Malaysia Perlis, Malaysia	University Malaysia Perlis, Malaysia	Anna University, India
PERFORMANCE OF GLASS FIBRE REINFORCED EPOXY (GRE) COMPOSITE PIPES UNDER VARIOUS STRESS RATIOS, WINDING ANGLES AND AGING CONDITIONS	STRUCTURAL DAMAGE DETECTION IN STEEL PLATES USING ARTIFICIAL NEURAL NETWORKS	NETWORK INTRUSION DETECTION USING DATA MINING APPROACH

PROFILE

With nearly 17 years of versatile work experience in Project Management, Data Science, Software development and Research I have managed several machines learning funded research projects. I have adapted myself to working in agile project management. The nature of research projects has enabled me to lead teams with one to several graduate engineers from the research and industry. Authored and secured research grants and managed projects right from idea conceptualization until final report submission. I have authored and published several research articles in reputed journals and conferences. I have conceived several ideas for research grants and secured research grants. I look forward to a challenging role in data science, machine learning, deep learning, web application development.

TECHNICAL EXPERTISE

Projects

- **Drowsiness Prediction using AI Mobile App [prototype development]**
  Deep learning and AI techniques used to detect the onset of drowsiness using wearable sensors to alert drivers using Mobile App running AI models.

- **Driver Drowsiness prediction using wearable Drive Alert device [prototype development]**
  Deep learning and AI techniques used to detect the onset of drowsiness using wearable sensors to alert drivers.

- **Drowsiness detection using physiological signals [fundamental research]**
  MATLAB functions developed for extracting EEG, ECG and EOG signals using framing technique and trained machine learning algorithms (SVM, KNN and ANN) to classify between drowsy and alert.

- **Driver drowsiness detection using eye closure detection [prototype development]**
  Using deep learning AI techniques to extract eye closure from the driver's facial images towards driver drowsiness detection.

- **Automation of the cyclic loadings for the Ultimate Elastic Wall Stress (UEWS) test 2012 - 2017**
  LABVIEW interface developed to control the opening and closing of the high-pressure solenoid valves under multiaxial cyclic loading conditions. A test rig was developed as an alternate to ISO14692 through ASTM D2992.

- **Damage detection in steel plates 2008 - 2011**
  An abundant data was collected using experimental modal analysis under fixed free and free-free conditions. DCT based signal processing techniques used to extract features from the dataset containing vibration signals from three accelerometers. ANN models were trained to classify steel plate condition between normal and faulty and demonstrated using MATLAB GUI.

To know more about the detailed list of projects, please visit GitHub repository [click here]

TECHNICAL COMPETANCIES

Programming Languages:	C++; C; C#; Python; Java; Dart, MATLAB; LabVIEW;
Scripting Languages:	SQL; Angular JS; TypeScript, JavaScript; HTML; CSS;
Tools:	Visual Studio; PyCharm; Spyder; Visual Studio Code;
Frameworks and Libraries:	Weka; Orange; OpenCV; TensorFlow; PyTorch, DL4J;
Cloud Platforms:	Google Cloud; Azure, AWS;
Technologies:	Computer Vision, Flutter, Web App; IOT; Machine learning. Deep learning; GitHub, Gitlab, Spark, Hadoop; Data Engineering
Hardware exposure:	Arduino; Raspberry Pi; NVIDIA Jetson Nano;

PUBLICATIONS

Book Chapters	**4**	*Total Publications*	**55**	*Scopus h-index*	**5**
Proceedings	**24**	*Total Citations (Scopus)*	**112**	*Google Scholar h-index*	**8**
ISI Indexed Journals	**4**	*Total Citations (Google Scholar)*	**236**	*Google Scholar i-10 index*	**6**
Scopus indexed	**35**	*Cumulative Impact Factor*	**15.98**		

For a detailed list of publications, please visit my profile at
[Google Scholar] [Scopus] [ResearchGate] [ORCID] [Publons]

RESEARCH GRANTS

Author and Co-Researcher	Fundamental Research Grant Scheme FRGS 2019-1 FRGS/1/2019/TK08/UNIKL/02/3	An Enhanced Correlation Algorithm for Multimodal Sensor Data to Detect Multilevel Drowsiness in Drivers	Oct 2019 - Sep 2021	**RM 77,200**
Author and Co-Researcher	Prototype Research Grant Scheme PRGS 2020-1 PRGS/1/2020/TK04/UNIKL/01/1	Prototype development of a portable wearable device for the real-time onset driver drowsiness detection and alertness	Oct 2020 - Sep 2022	**RM 101,500**
Author	Open Grant - Collaborative Research in Engineering, Science and Technology (CREST)	Data Modelling for the RFID-IOT using stochastic algorithms for inbound material flow management in an automotive OEM	(Project withdrawn)	**RM 657,056**
Author and Co-Researcher	Research Cluster Development grant, Centre for Research and Innovation (CORI) Universiti Kuala Lumpur	Intelligent Automotive Systems Research Cluster	Oct 2018 - Sep 2020	**RM 20,000**

AWARDS AND MEDALS

Research Excellence Award – **1** || Gold Medals – **2** || Silver Medal – **3** || Bronze Medal – **1** ||

PROFESSIONAL NETWORKS

LinkedIn	https://www.linkedin.com/in/dr-pranesh-krishnan
GitHub	https://github.com/praneshkrishnan
ResearchGate	https://www.researchgate.net/profile/Pranesh_Krishnan
Google Scholar	https://scholar.google.com/citations?user=LvVCmMYAAAAJ&hl=en&oi=ao
Scopus	https://www.scopus.com/authid/detail.uri?authorId=55639186000
ORCID	http://orcid.org/0000-0001-6032-8196
Web of Science/ Publons	https://publons.com/researcher/2856831/pranesh-krishnan/

PROFESSIONAL MEMBERSHIPS

Member, Institution of Engineering and Technology (IET) - 1100825044

Member, Institution of Electrical and Electronics Engineers (IEEE) – 90446264

Member, International Association of Engineers (IAENG) – 166311

Member, Malaysia Board of Technologies (MBOT)

HRD Certified and Accredited Trainer, Human Resource Development Corporation (HRD Corp)

LICENSES AND CERTIFICATIONS

Professional Technologist [Electrical and Electronic], Malaysia Board of Technologists 06 August 2020

Graduate Technologist [Electrical and Electronic], Malaysia Board of Technologists October 2019

Chartered Engineer, Institute of Engineering and Technology (UK) (application submitted)

Graduate Engineer, Board of Engineers Malaysia (application submitted)

Graduate Engineer, Institution of Engineers Malaysia (application submitted)

PERSONAL DETAILS

Nationality, INDIAN

Passport, Z3534380 (old G0266145) (valid till **07 April 2026**)

Visa, Employment Visa (valid until 13 **July 2025**)