Karthik M N

Location: Mysuru, Karnataka, India

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Objective

Aspiring to join a dynamic and innovative team where I can leverage my technical skills, expertise, and knowledge to drive company success and achieve personal growth.

Technical Skills

Operating Systems	:	LINUX(Ubuntu), Windows.
Programming Languages	:	C, C++, Python, Verilog, Embedded C, Assembly Language, HTML, and CSS.
Methodology	:	Structured and Object-oriented programming, and 2D/3D Drafting.
Software Tools	:	Arduino IDE, Proteus, Keil, AutoCAD, Pro-E, MATLAB, Sublime Text, and PyCharm.
Embedded Communication Protocols	:	I2C, SPI, CAN, UART, and USB.

Professional Experience

Assistant Professor Oct 2024 – Present
Mysore University School of Engineering *Manasagangotri – Mysore University,Mysuru, Karnataka, India*
Computer Science & Design Department

- Teaching undergraduate Computer Science & Design and Electronics courses, covering core and advanced topics.
- Developing course materials and mentoring students in research and academic projects.
- Collaborating on curriculum development and driving departmental innovation.

Graduate Technical Intern Aug 2022 – Jul 2023
Intel Technology India Pvt Ltd *SRR3 – Bengaluru, Karnataka, India*
Client SoC Architecture Team
–Practical Transparent Memory Compression (*Research project*): (Cache Memory, Memory Bandwidth, DDR, and LpDDR)

- Analyzed and replicated key contributions of Practical Transparent Memory Compression using a perf. simulator.
- Improved scheme accuracy, leading to enhanced performance metrics.

–Power and Performance - Architectural Level Power Modeling in SoC: (Memory Controller, Security IP, and Regression)

- This project is dedicated to power modeling and optimization for the memory controller and encryption/decryption IP in SoC designs as part of my 2nd-year M.E. internship.
- Conducted thorough power consumption analysis, identifying critical areas for efficiency improvements.
- Implemented regression models, predicting power consumption and performance trade-offs with high accuracy.
- Optimized power consumption in critical components, boosting system performance and security.

Graduate Apprenticeship Trainee Oct 2020 – Oct 2021
Bharath Earth Movers Limited - Mysore Complex *Mysuru, Karnataka, India*
–Quality Engineering:

- Conducted inspections and quality control activities to ensure compliance with technical drawings and ISO standards, while implementing 5S principles and safety regulations to uphold ideal quality assurance standards.
- Resolved assembly part quality disputes through effective vendor interactions.

–Research and Development:

- Prepared circuit diagrams, harness designs, and manufacturing drawings using AutoCAD and Creo.
- Tested and commissioned Electric Drive Systems on BH150E and BH205E Electric Drive Dumpers.
- Collaborated with assembly shop managers to refine prototype designs.
- Calibrated electronic systems, including Electronic Display, I/O module, Collision Avoidance System, Driver Fatigue System, and ABS/ASR Controllers, ensuring accurate functionality.

Education

Manipal Academy of Higher Education, Manipal University (MAHE) — MAHE, Manipal, Karnataka, India
Manipal School of Information Sciences (MSIS) — *Oct 2021 – Aug 2023*
Master of Engineering in Embedded Systems

Visvesvaraya Technological University, Belgaum (VTU) — Mysuru, Karnataka, India
Vidya Vikas Institute of Engineering and Technology (VVIET) — *Aug 2015 – Oct 2020*
Bachelor of Engineering in Electrical and Electronics Engineering

Academic Projects

COVID-19 Detection using chest X-Ray Images — M.E. 2ND semester project
Methodology - Keras, Python, Convolutional Neural Network(CNN)

- Developed a CNN model using Keras and Python to detect COVID-19 infections.

Battery Monitoring system for Electric Vehicle using Internet of Things — M.E. 1ST semester project
Methodology - Arduino UNO, C language, GPS & GSM Module, ARM7 LPC2148, and Free-RTOS.

- Designed a real-time IoT-based system for monitoring electric vehicle batteries.

Arduino based tracking and locating Alzheimer's patient — B.E. Final semester project
Methodology -Arduino Nano, C language, GPS & GSM Module.

- Developed a wearable tracking device; awarded Best Paper for the project publication.

Area of Interest

- Computer Architecture
- Data Structures and Algorithms
- Embedded Software
- Internet of Thing
- Operating Systems and RTOS
- Electric and Autonomous driving Vehicles

Technical Seminar

Brain Machine Interface — M.E. First semester Seminar
Explored brain-machine interfaces (BMI) for direct brain-to-machine communication and applications in cognitive and sensory-motor functions, highlighting Neuralink's - *"An integrated Brain-Machine Interface platform with thousands of channels"*, its advanced technology, and research on implementation types.

Certifications

- **Advanced Programming in C and Java** | *KEONICS*
- **Python Data Structures** | *University of Michigan* | *Coursera*
- **Software & Hardware Security Courses** | *Intel India*
- **MS Excel and Word** | *Coursera*

Volunteering

Leader & Volunteer — Aug 2023 – Present
Volunteer with U&I NGO, educating underprivileged children on weekends. Recently, raised ₹5K for our annual charity event.

Soft Skills

- Time Management
- Collaboration
- Adaptability
- Team spirit
- Self confidence
- Decision making
- Problem solving
- Leadership
- Attention to detail

Hobbies

- Graphic Design - Adobe Graphic Suit (Photoshop, Illustrator, After Effects, Premiere Pro, and XD) and CorelDraw.
- Voluntary Work/Community Involvement
- Travelling
- Playing Video Games
- Swimming
- Playing Guitar

I hereby declare that the information furnished above is true to my knowledge.

KARTHIK M N