Deeksha Prabhu

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EDUCATION

- **UNIVERSITY OF WASHINGTON** — Seattle, United States of America
  Masters in Electrical and Computer Engineering; GPA: 3.89/4.0 — 2023 - 2025
  Courses: Computer Speech Processing, Advanced Machine Learning, Deep Learning, Probability and Stochastic Processes, Advanced Embedded Systems Design

- **MANIPAL INSTITUTE OF TECHNOLOGY** — Manipal, India
  Bachelor of Technology in Electronics and Communication; GPA: 8.77/10.0 — 2013 - 2017
  Courses: Embedded Systems Design, Signals & Systems, Control Systems, Computer Architecture, Logic Design, Data Structures, Advanced Mathematics

SKILLS

- **Languages:** C, C++, Python, Assembly, MATLAB, TCL
- **Frameworks:** TensorFlow, PyTorch, Six Sigma
- **Platforms:** Microcontrollers, RTOS, Drivers, SoftCore Processors
- **Tools:** Git, Jira, LaTeX, ClearCase, DOORS
- **Miscellaneous:** Signal Processing, Oscilloscope, Multimeter, 3D Printing, Soldering
- **Soft Skills:** Leadership, Project Management, System Lifecycle

TEACHING EXPERIENCE

- **GRADUATE TEACHING ASSISTANT** — University of Washington
  University of Washington — Mar 2024 - Present
  - Graduate Teaching Assistant for the course EE474/ CSE474 - Introduction to Embedded Systems
    Responsibilities: Held office hours, graded assignments and exams, proctored exams, and mentored students on projects

EXPERIENCE

- **UBICOMP LAB** — Seattle, United States of America
  Graduate Student Researcher — Sep 2023 - Present
  - Engineered power optimization algorithms for the nRF53 microcontroller, achieving a 70% reduction in energy consumption for the battery-free MilliMobile Microrobot, significantly extending operational longevity
  - Designed and implemented firmware for a low power camera system using Nordic Semiconductor microcontrollers

- **GE HEALTHCARE** — Bangalore, India
  Senior Software Engineer — 2017 - 2022
  - Led the design and development of Spectral Imaging Control Software for X-Ray generators, leveraging the MicroBlaze SoftCore processor, to serve both emerging markets and premium CT segments
  - Drove the product development and design control process for design inputs/ outputs, product configuration, design reviews, design verification, risk management and regulatory compliance of medical device
  - Was responsible for Software Product Lifecycle activities for the X-Ray generator Software
  - Demonstrated performance equivalence between the old and the new design by leveraging statistical tools like DOE, Contour Plots, Regression Analysis, Hypotheses testing etc
  - Optimized software design, yielding a 15% margin for additional feature integration and developed automation scripts in Python and TCL, slashing verification duration by approximately 85%
  - Led the transition of control software from ASM to C language, enhancing software efficiency and developed I2C, SPI and CAN based drivers for ARM and MicroBlaze processors of Xilinx Zynq SoC
  - Partnered with Global Tiger teams to investigate and resolve the Field and Factory related issues

INTERNSHIPS

- **GE HEALTHCARE, Bangalore** (Jan 2017 - Apr 2017)
  Digitized X-ray tube and generator manufacturing line by using MEMS-based sensors and enabled cloud connectivity to critical manufacturing equipment leveraging BLE and Wifi

- **GE HEALTHCARE, Bangalore** (Jun 2016 - Jul 2016)
  Implemented non-invasive technique to detect faults in X-Ray tubes before they completely collapse. This was achieved by developing models using FFTs and analyzing output of accelerometer in frequency domain

- **PHILIPS HEALTHCARE, Bangalore** (Jul 2015)
  Designed a smart socket which is capable of monitoring the voltage and current consumed by the connected medical device to aid remote monitoring of medical devices

ACADEMIC PROJECTS

- **ROAD ACCIDENT PREVENTION SYSTEM)** (2015)
  Designed a Atmel ATmega168PB microcontroller based cost–effective system that could help in preventing road accidents. The designed system is capable of monitoring if the person is drowsy using Intel RealSense camera and if is inebriated using alcohol sensor

- **AMPHIBIOUS RESCUE AND SURVEILLANCE ROBOT - A MODERN HOVERCRAFT** (2014)
  Designed a Intel Galileo based amphibious vehicle (hovercraft) capable of traversing to disaster affected inaccessible regions and perform live environmental monitoring using an array of onboard environmental sensors and live video streaming. This project was awarded as the **best project at the Intel India Embedded Challenge - 2014** under the category of Internet of Things and Intelligent Systems

PUBLICATIONS

- Dr. Mohan Kumar J, Rishabh Mahajan*, **Deeksha Prabhu***, Debasmita Ghose* (2016), Cost Effective Road Accident Prevention System, *In Proceedings of IEEE International Conference for Contemporary Computing and Informatics*, (pp 10.1109/IC3I.2016.7917988 Computing and 353-357), DOI:10.1109/IC3I.2016.7917988

- Rishabh Mahajan*, Debasmita Ghose*, **Deeksha Prabhu***, A Modern Approach to Energy Generation and Conservation using Rain Water, *8th National Conference on Advances in Energy Conversion Technologies, 2016, Manipal Institute of Technology, India* (Oral Presentation)

- Debasmita Ghose*, Rishabh Mahajan*, **Deeksha Prabhu***, Amphibious Rescue and Surveillance Hovercraft, *Indo - German Convention of Lindau Alumni, 2015* (Best Poster Award)
  *Authors Contributed Equally

HONORS AND AWARDS

- **Theme Winner:** Internet of Things and Intelligent Systems at **Intel India Embedded Challenge - 2014** for building 'Amphibious Rescue and Surveillance Robot - a modern Hovercraft' among 2000 teams
- Recipient of Technology Award in 2018 under the category 'Innovation' at GE Healthcare for designing and productizing X-Ray generator using cutting-edge programmable devices

ADDITIONAL ACTIVITIES

- **World Konkani enter (WKC):** Mentored underrepresented and financially deprived students in my local community in developing soft skills, helping them to prepare for job interviews by hosting one-on-one and small group sessions
- Guided and supported female interns in their technical and professional development during their 12-week internship program at GE Healthcare
- **Upgrade Rural Childcare Centers - United Way & GE:** Participated in upgrading rural childcare centers in India. The main activity was reconstruction and restoration of rural childcare centers for the underprivileged children around my workplace
- **Go Green Initiative - GE Healthcare:** I involved in large scale green plantation drive to reduce carbon footprint which was a CSR activity conducted by GE