KOTESWARA RAO PANDI

2330 N Oliver St, Apt #707, Wichita, KS 67220 | +1 (316) 761-5562 | koteswararao.pandi999@gmail.com | www.linkedin.com/in/koteswararao-pandi/

EDUCATION

Wichita State University
Master of Science in Electrical and Computer Engineering, *GPA:* **4.00/4.00**

Wichita, KS, USA
Jan 2023 – May 2024

NIIT University
Bachelor of Technology in Electronics and Communication Engineering

Neemrana, RJ, INDIA
Aug 2016 - May 2020

TECHNICAL SKILLS

Languages	: Python, embedded-C, C, Verilog, VHDL, MicroPython
Embedded Module	: PIC16F877A, 8051, ESP32 Node MCU, Raspberry Pi, Beagle Bone Black, Arduino UNO, Lopy Pycom
QA Tools	: Atlassian Jira, Confluence, Azure, Stream Xpress, Test Rail, Witbe, Storm Developer Suite, Loggers, Red Rat Devices
Protocols	: SPI, I2C, CAN, PCIe, PCI, LVDS, UART, DDR, PWM, LIN, Ethernet, J1939, Modbus, Bluetooth, USB, NFC, Zigbee, Wi-Fi
Technical Tools	: MATLAB, Simulink, Power World, Visual Sim Architect, PowerBI, ModelSim, LabVIEW, OrCAD,
Lab Equipment	: Function Generator, Digital Multimeter (DMM), Oscilloscope, NI ELVIS Board, DC Power Supply, NI Multisim, LTSpice
Methodologies	: Sanity, Regression, User Acceptance Test (UAT), Functional/Non-Functional, Performance, Stress, Stability, Integration in Agile/Scrum

PROFESSIONAL EXPERIENCE

Wichita State University
Graduate Teaching Assistant

Jun 2023 - May 2024

- Developed application-oriented experiments in collaboration with professor using active and passive electrical components for ECE282 Circuits I course, registered by 140+ students every semester, utilized NI Multisim and EveryCircuit simulation tools for demonstrating to class of 60+ students.
- Proficient in integrating the sensors and actuators with embedded modules like Arduino UNO, enabling real-time temperature estimation based on bridge circuit outputs in various environments, demonstrating expertise in practical applications in the field of electrical engineering.
- Conducted 12+ sessions in Fall 2024 for 80+ students, 6+ sessions in Spring 2024 for 60+ students, fostered an environment of exploration and discovery, encouraging students to actively participate in experiments, analyze results, and draw meaningful conclusions.
- Leveraged my expertise in electrical engineering to create engaging labs, troubleshooting technical challenges, and provided personalized support to 140+ students following electrical principal wile igniting a passion for continuous learning and innovation.
- Utilized Blackboard tool effectively, provided timely and comprehensive feedback on student reports aimed at enhancing the student learning outcomes.

Irdeto: *A leading content protection, video broadcast, and service provider to the media entertainment, broadband, and mobile industries*
Test Engineer (Contributor to End to End (E2E) Test and Solution Architect Team)

Oct 2020 - Dec 2022

- Conducted comprehensive Manual and Automation testing of Linux and Android Set Top Boxes (STB) OF software of 33% and 26.35% market occupancy clients through creating and executing test plans according to lab bring up policy though validation in lab, delivered 8 projects through OTA.
- Familiar with installing firmware of Android and Linux STB's, created technical reports of 8+ complex features, edited test cases of 3 categories, developed manual and automation test cases for 2+ automation tools, reported vulnerabilities in 2+ tracking tools, prepared technical guide, and procedures.
- Pioneered in designing clear and concise test cases including edge scenarios according to feature and system specifications in TestRail, utilized digital debugging tools like GDB (GNU debugger) for Linux and ABD logs for android issue analysis for debugging of 5+ STB's.
- Developed and maintained automated tools using Python scripting for 2 automated tools Strom Developer Suit and Witbe field devices, maintained the scripts of current and future testing requirements that reduced the 40% of testing time.
- Consistently raised defects observed in Ad-Hoc testing and troubleshooted on system level, utilized Jira and Azure for bug tracking, investigated root cause analysis, interacted with development team for resolution and updated confluence with effected areas, applied new skills to assure "0" bug policy.
- Analyzed the AV using Textron CRO connected through RAC and HDMI to CRT and lates TV's, protected the content of 600+ services through 2 content protection techniques HDCP and Macrovision, verified transponder using Textron network analyzer tool.
- Configured KMS server with networking cards that support CAS of STB to decode the AV for seamless streaming across 32 Transponders network.
- Competently optimized memory architecture to accommodate complex features including One Way Recommendation, Trending, and free preview, enhanced 15% of memory footprint from RAC input to TV through iterations of version control system Git, increased STB market from by 6%.
- Maintained accurate bug records on all tests performed and updated the results aligning to functional specifications and business requirements, thereby ensuring comprehensive documentation of findings throughout the testing process to ensure the quality of 18+ complex features.
- Effectively communicated with cross-functional team like development team for bug resolution, E2E component for vulnerability triage, manufacturing, and supply chain management for documentation, delivered 8 projects through OTA update with increased 21% client satisfaction rate.

RESEARCH PUBLICATIONS

Dynamic Task Scheduling to improve performance and Uniform Heat Distribution of Multicore Systems (Individual Project)   *Nov 2023 - Mar 2024*
Computer Architecture and Parallel Programming Laboratory (CAPP) at WSU
- Engineered a 7X7 Wireless Network on Chip (WNoC) architecture featuring cores and routers, employed a sophisticated 2-step sorting process integrating short Job First (SJF) scheduling algorithm, enhancing resource utilization. Developed a flag parameter mechanism for optimizing communication latency and minimizing power consumption.
- Achieved a 45.83% of hop count improvement, reduced the delay of communication by 19.28%, through reducing the involvement of computational devices to complete the task achieved the energy efficiency of 37.16%.
- **Utilized: CPU, Preemptive SJF, Beoshock HPC, 92 Jobs of Workload**

Image Classification SVM and CNN (Role: ML Model Developing, Research)   *Jul 2020*
2020 International Conference on Computer Science, Engineering and Application (ICCSEA)
- Led a pioneering research initiative in image classification, employing advanced techniques such as Support Vector Machine (SVM) and Convolution Neural Network (CNN), improving accuracy from 82% to 93.57% on a challenging dataset through implementation of deep learning methodologies.
- Utilized 3000+ images for orchestrating a transition from traditional machine learning approaches to cutting edge deep learning techniques.
- **Utilized: Python, Datasets, Data Processing, Model Evaluation and Optimization, Data Visualization**

Cloud based Weather Monitoring System (Role: Model Implementation, MATLAB Analysis)   *Jan 2020*
Advances in Data Science and Management, Lecture Notes on Data Engineering and communication Technologies, Vol 37 Springer
- Orchestrated the creation and deployment of real-time weather monitoring system, seamlessly integrating temperature and humidity alarm systems, reduced response time though automated telephone dial-up and SMS Text warning for personnel program that runs with frequency of 5 Minutes.
- Designed and implemented a cloud-based solution utilizing Thingspeak cloud service and MATLAB for data analysis, achieving a 25% enhancement in predictive accuracy for rainfall forecasts, facilitating informed decision making in server maintenance and agricultural planning.
- **Utilized: MATLAB, IFTTT, Raspberry Pi, DHT11 sensor, Thingspeak Cloud, Twitter, SMS**

AWARDS & EXTRA CURRICULAT ACTIVITIES

- Student Member in WSU **IEEE Student Branch** from June 2023 to Present, conducted IEEE Circuits competition in Spring 2024 semester.
- Received the **Best Employee of the Year** Award from the Head of the Engineering team at Irdeto in 2022.