BHARATH T

Email: bharatht27may@gmail.com | Contact No: , +91 9066498121, +44 7741590857 | LinkedIn: Click to view

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EDUCATION

University of Liverpool   *2022-2023*
Master of Science, Telecommunication and Wireless Systems
Graduated with Merit in Telecommunications and Wireless Systems.

PES University   *2018-2022*
Bachelor of Technology, Electronics and Communication Engineering
Graduated with First Class with Distinction securing a CGPA of 7.95 on a 10-point scale with a specialization in Communications.

ACHIEVEMENTS, HONOURS AND AWARDS

- **Published IEEE Paper - "Circular Microstrip Patch Antenna Using Superstrate for Deep Space Application"**   *2022*
  Presentation certificate: *Click to view*
- **Vice-Chancellor's International Attainment Scholarship**
- **Distinction Award**

WORK EXPERIENCE

Software Engineer Intern, Nuvento Systems [Client – Zebra Technologies]   *November, 2024 - Present*

- Currently developing a powerful application to automate the retrieval of key artifacts from each build, encompassing data extraction, analysis, and near real-time administrative visualization.
- **Tech Stack:** Python, Django, ReactJS, Node.js, Mobile Security Framework (MobSF), MongoDB

Intern, Tech Mahindra   *September – December, 2021*

- Developed an IoT-based health monitoring system for tracking patient vitals, which increases patient care quality by 25% leading to faster, more accurate diagnosis and treatments plans.
- Worked on the integration of hardware and software using ESP32 microcontroller and UbiDots IoT platform.
- Enhanced healthcare monitoring, improving data management efficiency.

PROJECTS

Modelling of IoT Source Traffic data   *June – September, 2023*
Department of Electrical and Electronics, University of Liverpool, Liverpool

- Spearheaded an IoT traffic modeling project using non-linear least squares fitting in MATLAB.
- Achieved a 31% efficiency gain by analyzing interarrival times, and modeling data with single and multimodal distributions.
- Evaluated model accuracy using Kolmogorov-Smirnov distances, demonstrating superiority of multi-weighted distributions.

Circularly Polarized Antenna for Deep Space Communication   *April – December, 2021*
Department of Electronics and Communications Engineering, PES University, Bangalore

- Led the optimization of a circularly polarized antenna using ANSYS HFSS, enhancing satellite communication gain by 8% and increasing the 10 dB return loss bandwidth by 8%.
- Enhanced antenna performance using a superstrate structure, achieving a gain increase to 9.3766 dB (8.89% improvement).
- Expanded the 8 dB gain bandwidth to 780.4MHz (66.21% increase), making the antenna suitable for modern wireless communication applications.

Tyre Pressure Monitoring System   *August – December, 2020*
Department of Electronics and Communications Engineering, PES University, Bangalore

- Developed an IoT-based Tire Pressure Monitoring System (TPMS) using Arduino IDE for real-time tire pressure monitoring and alerts.
- Hardware design of components including pressure sensors integrated with Arduino for data collection and transmission via Wi-Fi.
- Improved vehicle safety and lowered risks associated with under-inflated tires by 30%.

FIELD OF INTEREST

- Wireless Communication
- Embedded Systems
- Internet of Things
- Antenna Theory
- Computer Networks
- Communication Systems
- Data modeling and parametric optimization
- Artificial Intelligence

TECHNICAL SKILLS AND OTHER SKILLS

- Programming: Python, MATLAB.
- Frameworks & Libraries: Django, ReactJS, Node.js.
- Tools & Platforms: Mobile Security Framework (MobSF).
- Database: MongoDB
- UI/UX Knowledge: Basic understanding of user interface and user experience principles.
- RF Design: Filters, Low Noise Amplifiers (LNA), Power Amplifiers, Linear Amplifiers.
- Filter Design: Basic Filters, Power Divider, and Coupler.
- Tools: ANSYS HFSS, ADS (Advanced Design System), MATLAB, Arduino, CST Studio.
- ANSYS HFSS: Six months experience; Usage of 3D modeler and ports to analyze.
- Systems Engineering: Integrating hardware and software of electronic subsystems.
- Network Protocols: TCP/IP and UDP, WLAN, ZigBee, LoRaWAN, Cellular networks(CDMA/GSM/LTE/5G).
- Technical Documentation: Creation of system requirements, design specifications, and integration plans.
- IBM Watson and Watson AI Services
- Computer Vision Processing

CERTIFICATIONS

- NPTEL: "Introduction to Industry 4.0 and Industrial Internet of Things", "Data Analytics with Python", "Principles of Modern CDMA/ MIMO/ OFDM Wireless Communications".   *2021*
- Coursera: "The Arduino Platform and C programming" and "Introduction to IoT and Embedded Systems" from University of California.   *2021*
- Math Works E- learning: "MATLAB Onramp".   *2020*
- IBM(Coursera): "Python for Data Science, AI and Development".   *2020*
- IBM(Coursera): "IBM Applied AI" Specialization.   *2020*
- IBM(Coursera): "Computer Vision Basics" and "Introduction to Computer Vision with Watson and Open-CV"   *2020*