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Vandana Chegondi

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Professional Summary

Master's student in Electronics Engineering with hands-on experience in image processing, embedded systems, and signal analysis. Skilled in Python, MATLAB, and LabVIEW, with a strong interest in sensor fusion and AI-driven systems. Eager to contribute to R&D in autonomous technologies.

Education

Hochschule Bremen, Germany *Apr 2023 – Present*
Masters** in **Electronics Engineering

- **Coursework:**, Fibre optics and Test Measurement, Optical Communications, Image Processing and Pattern Recognition, Computer Aided and Data Acquisition, embedded systems, focusing on programming languages like Python, MATLAB, LTspice.
- **Lab Work**: Transistor characteristics testing using LabVIEW, hands-on with optical sensor setup, optical alignment, and fiber coupling.

Sagi Rama Krishnam Raju Engineering College, India *June 2019 – May 2022*
***Bachelors** in **Electronics** and **Communication** Engineering*

- **Coursework:** Digital Electronics, Analog and Digital Communications, Fiber Optic Communications, Embedded Systems, Digital Image Processing with MATLAB (Antenna Designer Tool), AI, and Machine Learning basics. Advanced Computer Programming with Python and C.

C V Raman Polytechnic College, India *June 2016 – April 2019*
***Diploma** in **Electronics** and **Communication** Engineering*

- **Overview:** Built a strong electronics and computer science foundation, ranked in the top 10% of the class.

Skills

Programming: Python, MATLAB, C, SQL.

Tools and Platforms: LabVIEW, LTspice, Arduino, PowerCenter.

Technologies: YOLO, Signal Processing, Deep Learning, Data warehousing, ETL.

Others: LaTeX, MS Office. **Soft Skills**: Independent work, teamwork, documentation, Analytical thinking.

Experience

Program Analyst Trainee *Hyderabad, IN*
***Cognizant** Technology Solutions* *May 2022 – March 2023*

- Developed **data workflows** and **processed data** to **maintain databases** for leading **banks** in Asia, ensuring **data accuracy** and **reliability**.
- Collaborated with **QA teams to validate workflows and maintain documentation** for compliance and traceability.
- Participated in basic system **validation/testing tasks to ensure data workflow integrity**.

Software Engineer Intern *Hyderabad, IN*
***Cognizant** Technology Solutions* *Feb 2022 – April 2022*

- Worked on **Assisted in clinical database management and implemented SQL procedures**.
- Performed **SQL-based operations** to manage and maintain system integrity.
- Improved data quality processes in **healthcare systems**, leading to a full-time offer.

Projects

Autonomous maze solver (Associated with Hochschule Bremen) *2025*
*(*github.com/Vandana1320/CameraCalibration*)*

- Image processing based project to automatically **control** a **BRIO maze** using **servos**.
- Developed a **camera workflow** involving **object detection** and **calibration**, to detect objects in the maze, such as balls, walls of the maze, and the path. Achieved **95% detection rate** of the walls and balls of the maze.
- Implementation of **software** and **hardware** integration, focusing on **high accuracy** for **real-time** detections. Documented calibration workflows and implemented iterative improvements.
- Tools used: **MATLAB** (Camera Calibration), **YOLO**, **Python**.

Under Water Acoustics and Signal Processing (Associated with Hochschule Bremen) *2024*
(github.com/Vandana1320/UnderWater-Acoustics-and-Signal-Processing)

- Developed a **MATLAB** program to analyze **beam patterns** of linear antenna arrays and implemented **side lobe suppression and steering techniques** for optimized performance.
- Determined **pressure distribution** in underwater environments with a graphical representation by designing a MATLAB model. Simulated **sound propagation** considering **bottom and surface reflections** with varying frequencies.
- **Prepared detailed technical documentation** summarizing methodology, implementation, and results for academic purposes.

Improving gain of Microstrip patch antenna using two inverted U-slots in MATLAB (Associated with SRKR Engineering College) *2022*

- Designed a **Microstrip patch antenna** with the help of the "**Antenna Designer Tool**" in **MATLAB** to achieve **high accuracy** when **compared** to other tools like **Ansys**.
- Observed **10% higher gain** in a Microstrip patch antenna using MATLAB than Ansys, overcoming the **challenges** posed by its **compact** and **precise design**.

Certifications

- Cisco Certified Network Associate(CCNA) from **Cisco Networking Academy**. *2021*
- Configured and managed routers and switches in a simulated network using **Cisco Packet Tracer**.

Languages

- **English** – C1 (Fluent, Medium of instruction throughout education)
- **Hindi** – B1
- **German** – A2 (Actively Improving)
- **Telugu** – C2 (Native)

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