Shubham Kulkarni

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Summary

Innovative and **result-oriented Electronics and Telecommunication Engineering student** with a strong foundation in **embedded systems**, **IoT**, and **electro-mechanical product development**. Demonstrated expertise in designing and implementing **smart automation solutions**, most notably the **Smart Irrigation System** that earned **University Rank 2 in the SPPU Startup Olympiad 2025**. Skilled in integrating **hardware (Raspberry Pi, sensors)** with **software (Python, APIs, ML)** to build scalable, intelligent systems. A quick learner with a passion for **technology, R&D, and product innovation.**

Education

- **Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar (7.46/10 CGPA)**
  BE in Electronics and Telecommunication (2021 – 2025)
- **Residential Arts, Commerce, and Science Junior College (87.5%)**
  HSC (2020 –2021)

Technologies

- **Programming Languages:** Python, SQL, HTML5, CSS3, MATLAB, MySql
- **Cloud Platforms:** AWS, Microsoft Azure, Google Cloud Platform (GCP)
- **Platforms:** Windows, Linux
- **Tools and Frameworks:** Git, Docker, Postman, Jupyter, React, Flask, Django
- **Telecom:** mmWave, Network Slicing, MIMO, OFDM
- **Hardware:** Raspberry Pi, Arduino, soldering, PC building, circuit prototyping

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Experience

⭕ **Artificial Intelligence Intern – IBM India Pvt. Ltd. (Remote, Jun 2023 – Aug 2023)**

- Designed and deployed a sophisticated **AI-based Mental Health Fitness Tracker**, achieving a **90% accuracy rate** in mood detection through advanced natural language processing techniques.
- Led model evaluation, debugging, and optimization strategies to ensure high system reliability.
- Collaborated with cross-functional teams to ensure smooth project delivery and integration.

⭕ **Artificial Intelligence Intern – MathWorks** *(May 2023 – Sep 2023)*

- Successfully completed the MathWorks Virtual Internship Program on "Getting Started with Artificial Intelligence," supported by AICTE and NEAT.
- Gained hands-on experience with AI workflows including data preprocessing, model training, and performance evaluation using MATLAB.
- Applied foundational AI techniques to solve real-world problems through project-based learning modules.

⭕ **6G Research Intern - HNNOIX India Pvt Ltd, Gurgaon (Remote, March 2025 – Present)**

- Involved in ongoing research and development projects related to 6G wireless communication systems.
- Learning and applying concepts of network slicing, spectrum management, and terahertz communication.

- Working on simulation and modeling using Python and MATLAB for signal analysis and optimization.
- Attending live sessions and completing regular assignments focused on intellectual property trends in next-gen networks.

Projects

○ **Alumni Management Portal** *(June 2024 – Present)*

- Architected a highly scalable backend infrastructure using **Django, Flask, and MySQL** to facilitate seamless alumni interactions.
- Integrated secure user authentication systems and leveraged **AWS Cloud Storage** for scalable data management.
- Conducted continuous testing and debugging to optimize system performance.

○ **Smart Irrigation System** *(Smart India Hackathon 2023 – AIR 1; University Rank 2 – SPPU Startup Olympiad 2025)*

- Engineered an IoT-powered irrigation solution integrating AI models and sensor data to optimize water usage.
- Achieved a **30% reduction in water wastage** through data-driven irrigation scheduling strategies.
- Applied Agile development practices to ensure timely delivery of solution components.

○ **Line Following Robot** *(Mini Project – Jan 2024 to May 2024)*

- Designed and developed an autonomous line-following robot using Arduino Mega and IR sensors for real-time path detection.
- Engineered optimized path-following algorithms, achieving 95% course accuracy in complex circuit simulations.
- Simulated and evaluated multiple control strategies to enhance response time and turning precision.
- Demonstrated strong foundations in embedded systems, robotics, and automation

Extracurricular Activities

- **AIR 1 Winner** – Smart India Hackathon 2023 for innovative problem-solving.
- **University Rank 2** – SPPU Startup Olympiad 2025 for the Smart Irrigation System idea.
- **Runner-Up** – AI Hackathon by TIAA Global Pvt. Ltd. for developing an innovative AI-powered solution aimed at financial data analytics.
- Completed 6-day **Innovation Design and Product Development Training** by the Government of India at Nagpur and Visakhapatnam

Certificate

- Geodata Processing using Python – ISRO & IIRS
- Overview of Global Navigation Satellite System – ISRO
- Signal Processing Onramp – MathWorks
- Deep Learning Onramp – MathWorks
- Python Programming – GUVI

Personal Details

- **Date of Birth:** 21st February 2004
- **Languages Known:** English, Hindi, Marathi
- **Address:** Shrirampur, Ahilyanagar, Maharashtra, India