SHIV PATEL

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PROFESSIONAL WORK EXPERIENCE

Bool LLC — Co-Founder and Lead Developer   State College, PA
Full stack IOS App and website that renders bar wait time predictions   *Feb 2023 – Feb 2025*
- Implemented account handling features utilizing Firebase and MongoDB for user authentication and data security.
- Spearheaded a marketing campaign in State College, achieving 78% market penetration in 9 weeks, reaching 17,500+ users.
- Secured $15,000 from Penn State's Happy Valley LaunchBox, receiving mentorship to refine strategies and product growth.

TechKnowServ Corporation — Junior Engineer   State College, PA
Engineering company providing advanced Non-Destructive Testing services.   *Sep 2024 – Dec 2024*
- Managed end-to-end client engagement, including inquiries, trainee on-boarding, and certification processes for NDT training in magnetic particle, flow iron re-certification, acoustic emissions, and phased array, driving a 15% increase in monthly revenue.
- Developed and implemented technical training content for Ultrasonic Testing Level and Phased Array certification programs, ensuring compliance with ASNT and industry standards while utilizing WIX and Google Classroom for scalable course delivery.
- Prepared comprehensive technical inspection reports, analyzing NDT data from chemical and compressed gas tanks and other structures to evaluate compliance and integrity, and estimate remaining life leveraging advanced industry standards and practices.
- Contributed to TechKnowServ's research and development team to design an innovative phased array transducer for the industrial and medical gas market, enhancing technical innovation and reducing false rejections by 50% during gas cylinder inspections.

The McEntaffer Group — Hardware Communication Research Assistant   State College, PA
NASA funded suborbital rocket payloads: tREXS and OGRE missions.   *Dec 2022 – Aug 2024*
- Collaborated on the implementation and testing of the OGRE XCAM system, integrating and calibrating the EMCCD sensors for use in vacuum environments and high-radiation conditions, ensuring high sensitivity for stellar X-Ray source observations.
- Conducted research alongside NASA engineers to assess the primary PCM Encoder with its original implementation of 10 Mb/s, and compare its integration with Ethernet utilizing the Ethernet Via Telemetry (EVTM) to achieve speeds of up to 40 Mb/s.

PHL Airport Waterfront Inn LLC — IT Technician and Network Manager   Essington, PA
40 room Motel located 5 miles from the PHL Airport   *Jun 2017 – Jan 2023*
- Facilitated IT and technical operations, including Wi-Fi network setup and maintenance, security camera installation and integration into the hotel's IP network, while also collaborating with travel agencies increasing occupancy rates by 20%.

PROJECTS

Acoustic Echo-Location Sensor Development Using PN Sequence Encoding | Lead MatLab developer   *Mar 2024*
- Designed and implemented a spread spectrum signal system for advanced echo-location using PN sequences, applying signal processing and communications theory to accurately measure distances with a correlation-based receiver.

FIFA World Cup Player Statistics Database Management System | SQL/Python Developer   *May 2024*
- Developed a comprehensive DBMS (PostgreSQL, Python) for FIFA World Cup player statistics, including schema design, data import via Python scripts, and a CLI for queries, while ensuring normalization and query optimization for efficient data handling.

Bluetooth Low Energy Device Triangulation | Lead MatLab developer   *Apr 2024*
- Developed a BLE-based device triangulation system using ESP32 micro-controllers, implementing IoT deployments and real-time data analytics. Managed device configuration and RSSI data handling to optimize the location triangulation accuracy.

OFDM Transmitter | Lead MatLab developer   *Feb 2024*
- Implemented a transmitter that converts text to a binary format and applies a modulation schemes, enhanced the transmission system by incorporating serial-to-parallel data conversion, IFFT, and cyclic prefix to maintain signal integrity.

EDUCATION

The Pennsylvania State University   University Park, PA
B.S. in Computer Science; Minors in Mathematics, Cybersecurity, Planetary Science, Astrophysics and Astronomy   *May 2024*

SKILLS

Programming Languages: Python, MatLab, C/C++, JS, SQL
Technical Proficiencies: Data Analytics, Signal Processing, Modulation Techniques, Spread Spectrum Systems

Web Dev & Frameworks: React, Node.js, HTML/CSS, MongoDB
Soft Skills: Corporate Communication, Project Management, Entrepreneurship, Business Strategy, Marketing, Technical Writing