Hrishikesh Pingle

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Skills

OS Linux, Windows
Languages Java, Python, Dart, TypeScript, C++, Rust
Frameworks React/Next.js, Flutter, Svelte, ROS2
Databases MySQL, Firebase, Postgres
Hardware STM32, ESP32, Arduino, RaspberryPI
Version Control Git/Github

Experience

Onward Technologies **Jun 2024 – Jul 2024**
Software Engineering Intern

Client: Bentley Motors

- Conducted comprehensive Exploratory Data Analysis (EDA) to develop three proof-of-concept (POC) models for the marketing team, resulting in a 40% improvement in targeted campaign effectiveness and engagement metrics.
- Used Jupyter Notebook to collaborate with the team.
- Used Pandas, NumPy, SciPy, Matplotlib, Seaborn, Scikit-learn, Statsmodels, Ploty for cleaning data, processing data and display the data.

Dashboard

- Engineered an interactive dashboard utilizing Svelte to visualize cloud expenses from Azure, AWS, and GCP APIs, enabling real-time tracking of expenditures while integrating a forecasting feature that accurately predicted monthly costs with an 85% accuracy rate.
- I was the best SWE intern there (I was the only intern there).

WINspect Technologies Pvt. Ltd. **Dec 2023 – Jan 2024**
Website Developer

- built a multi-page comprehensive website that presents more than 20 products and services, resulting in a 40% increase in online engagement metrics within the first quarter of launch.
- Streamlined user experience through innovative design and intuitive navigation, leading to a reduction in site bounce rates by 30% and enhancing average session duration by 25
- Optimized website performance using SEO best practices, achieving a top-three ranking for target keywords and boosting organic traffic by 150%, significantly increasing brand visibility.

Projects

Rogue Access Point **Personal**

- Developed and implemented a proof-of-concept for a Rogue Access Point (Evil Twin) using ESP32, demonstrating vulnerabilities in unencrypted Wi-Fi networks and the risk of credential phishing.
- Configured ESP32 as a simulated access point to mimic legitimate Wi-Fi networks, effectively illustrating the process of network impersonation and the capture of user credentials for educational purposes.
- Designed and deployed a custom web server on ESP32 to serve a deceptive login page, capturing and logging user input to understand the mechanics of phishing attacks.

ROS2 Visualization Environment **Google Summer of Code 2025**

- Developed a ROS 2 client-server system and web-based visualization tool, integrating C++ based ROS 2 services with a Svelte and Mermaid frontend to visualize node communication as Directed Acyclic Graphs (DAGs).
- Implemented a service-based communication package using `rclpy` in ROS 2 Foxy, enabling request-response data exchange, and visualized interactions using `rclnodejs`, Svelte, and Mermaid in ROS 2 Jazzy.
- Configured ROS 2 workspaces with `colcon` and `npm`, authored modular Python and TypeScript code, and documented setup in comprehensive READMEs, ensuring accessibility and maintainability.
- Proposed advanced tools like D3.js and Tauri for enhanced DAG customization and cross-platform deployment, demonstrating strategic thinking for scalable robotics applications.

PNT Monitoring Tool (Under Development) **Personal**

- Developed a web-based PNT monitoring dashboard inspired by Safran's SecureSync 2400 and White Rabbit, using Svelte, TypeScript, and Tailwind CSS to create a responsive interface for visualizing timing and synchronization data.
- Designed a modular frontend architecture to support future integration of MIB files for real-time display of PNT metrics, such as GNSS-based time synchronization and sub-nanosecond precision data.

- Planned and prototyped alert functionalities to enable proactive monitoring of network timing anomalies, aligning with White Rabbit's high-precision synchronization protocols.

Terminal-Based Chat System (termMC) **Personal**

- Built a lightweight, terminal-based chat server and client in Rust, implementing multi-user communication using TCP sockets and multithreaded message handling.
- Designed a custom message broadcasting system that supports real-time updates, username prompts, and event logging, simulating Minecraft-style in-game chat mechanics.
- Added color-coded terminal output using ANSI escape codes to improve message clarity and UX, with plans for secure messaging and user authentication.

Education

Bennett University - 2027
Bachelor of Technology in Computer Science and Engineering
Specialization: Cyber Security

Certifications

- Google - Foundations of Cybersecurity
- ISC2 - Security Principles
- IBM - Introduction to Cybersecurity Tools and Attacks
- University of California San Diego - Data Structures
- IBM - Databases and SQL for Data Science with Python

Extracurricular Activities

Google Developer Groups on Campus Bennett University **Aug 2024 – Present**

- Served as Tech Track Lead
- Helped organize all events related to GDG

SPARK - Entrepreneurship Cell **Feb 2025 – Present**

- Served as Tech Team member