# 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 colon 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.

## **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