HRISHIKESH PINGLE

☎ +91 9137985297 — ✉ hppingle — linkedin.com/in/hppingle — Blaeriz

Skills

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

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

Limit Order Book Simulator — GitHub **Personal**

- Engineered a high-performance **limit order book engine in C** implementing price-time priority, scaling to **1M ticks, 25M+ order operations, and 1M+ trades** with **100 heterogeneous agents** on a single core.
- Achieved **sub-100ns p50 latency** for add/cancel/match operations (match p50 ~ 15ns) and **255K+ ticks/sec** throughput via cache-efficient data structures and profiling-driven optimization.
- Optimized order cancellation from **O(n)** → **O(1)** using doubly-linked lists and direct node indexing, reducing median cancel latency from microseconds to nanoseconds and enabling deep-book stress tests (**300K+ orders per level**).
- Implemented production-style structures: **red-black tree** for O(log n) price levels, **hash map** for O(1) order lookup, and FIFO queues per level; built-in nanosecond benchmarking with p50/p99 tracking.

ROS2 Visualization Environment — Workspace — Visualizer **Google Summer of Code 2025**

- Developed a modular client-server architecture in ROS 2 (Foxy and Jazzy), visualizing live node communication as Directed Acyclic Graphs (DAGs) using Svelte and Mermaid, with support for dynamic graph updates via service requests.
- Engineered and integrated ROS 2 packages using `rclpy`, `rclnodejs`, C++, and TypeScript; configured build environments with `colcon` and `npm`, and authored complete end-to-end READMEs for reproducibility.
- Proposed advanced visualization enhancements using D3.js and deployment with Tauri, showcasing foresight in scalability and cross-platform support.

PNT Monitoring Tool (Under Development) — Preview **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) — GitHub **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

- NVIDIA - MODERN CUDA C++
- 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