Ketan Gupta

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EXPERIENCE

Goldman Sachs — Bengaluru, IN
Associate, Low Latency C++ Developer — *June 2019 - Present*
- *Working as part of Ultra Low Latency DMA offering of GSET (Goldman Sachs Electronic Trading).*
- Rearchitected market data pipeline to use shared memory instead of Kafka to handle US Options quotes in real-time. Reduced lag at market open from 60-90 seconds to <0.1 seconds.
- Restructured our platform to offer sponsored access trading across CBOE, Nasdaq and SIX.
- Designed and developed an end-to-end alerting and monitoring solution for our trading platform.
- Improved build pipeline and wrote a Gradle to CMake transpiler plugin to improve developer productivity.
- Developed tooling for release automation and artifact management.
- Improved Apache Kafka deployment. Worked on a Prometheus/Grafana setup for monitoring Kafka performance, and decreased consume latency by almost 50%.
- *Tech Stack: C++17, Boost Asio, Apache Kafka, Python, Unix/Bash, Gradle, Java (Vert.x) and React.*

Goldman Sachs — Bengaluru, IN
Summer Analyst — *December 2017 - January 2018*
- Developed a rigorous replay testing tool from scratch for an order management application, and designed a heuristic algorithm to match corresponding data from two streaming data sources.
- *Tech Stack: Python, C++, Bash, Apache Kafka and AWS S3.*

Elanic — Bengaluru, IN
Backend Developer Intern — *December 2017*
- Rewrote chat server to make it more performant and scalable. Modified the database schema to reduce response time by up to 50%, and worked on fault-tolerant migration scripts.
- *Tech Stack: Node.js (Socket.IO) and MongoDB (Mongoose). Redis for Pub/Sub.*

EDUCATION

Indian Institute of Technology Roorkee — Roorkee, IN
Bachelor of Technology in Computer Science; GPA: 8.31/10.0 — *July. 2015 – May. 2019*

PROJECTS

Tiled Map Editor — Remote
Google Summer of Code '17 — *May 2017 - August 2017*
- Added support for Infinite Maps, so that tiles can be drawn without worrying about the boundaries. Added Layer Locking and Move Selection feature. Also made a lot of improvements in Polygon Editing Tools.
- Worked in C++ and Qt Framework under the mentorship of professional game developers.

- **Backdoor, SDSLabs**: A platform for organizing infosec CTF (Capture the Flag) contests. It runs along with Beast, a scalable and distributed container management application to host challenges.

AWARDS AND ACHIEVEMENTS

- **International Olympiad of Informatics Training Camp 2015**: Top 30 candidates for IOI India team selection.
- **Gold Medal, Inter IIT Tech Meet 2018**: Orbital Simulator Hackathon (N-Body Simulation).
- **39th and 32nd Place**: ICPC Amritapuri and Chennai Regionals 2016.
- **All India Rank 448**: Joint Entrance Exam Advanced 2015; 150,000 candidates.
- **All India Rank 271**: Joint Entrance Exam Mains 2015; 1.5 million candidates.

SOCIETIES

SDSLabs, IIT Roorkee *(Joint Secretary)*   **WatchOut! News Agency, IIT Roorkee** *(Web Design Head)*
Programming and Algorithms Group, IIT Roorkee   **ProgRed, DPS Ranipur** *(Co-Founder)*

PROGRAMMING SKILLS

Languages: C/C++, Python, Java, Javascript   **Other**: Boost C++, Kafka, Git, Linux/Bash, Mongo, React