Atul **Srivastava**

SOFTWARE ENGINEER

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Skills & Interests

Programming Languages	Golang, Python, Familiar With: Typescript/JS, C++, Java, C, VHDL, Assembly (MIPS)
Computer Software	Git, Bash, Make, LaTeX
Software & Platforms	JIRA, Confluence, Ansible, Familiar With: Docker, Prometheus, Grafana, Jenkins
Operating Systems	Linux, Windows, Mac OSX, Android, ROS
Communication Protocols & Standards	HTTP, Websockets, REST, GRPC, CAN, UDS (ISO 14229), I^2C, SPI, UART, ISO26262
Miscellaneous	Agile Development, Digital & Analog Circuit Design, PCB Design, Arduino/Raspberry Pi
Hobbies & Interests	Robotics, Motorcycles, Fitness, Skiing, Hiking, Running

Experience

bloXroute Labs *Remote (Chicago, IL)*

SOFTWARE ENGINEER – *Golang, Python, Typescript* *October 2022 – Present*

- Collaborated with partner company to architect a full-stack solution for high speed websocket data streams promoting arbitrage on their novel time weighted automated market making algorithm (**TWAMM**) (https://docs.bloxroute.com/streams/twamm-streams)
- Created aribitrage algorithm between **Uniswap** AMM and TWAMM with asynchronous I/O in python to advertise bloxRoute data streams.
- Enhanced integration testing capabilities of solana trading platform, specialized for high configurability to measure the throughput and average latency of an API under different loads. Leveraged this framework and utilized Grafana/Prometheus metrics to expose hidden memory leaks that enhanced production up time by **200%**
- Created a generic service in Go to process real-time events on Ethereum and save transaction/log data in Redis database. Utilized a proxy service to poll information from multiple live nodes, providing redundancy in the case of node failures.

Tesla *Bay Area, CA*

SENIOR SOFTWARE ENGINEER – *Golang, Python, C* *April 2022 – October 2022*
SOFTWARE ENGINEER *October 2020 – April 2022*

- Led end-to-end effort to replace legacy battery pack end of line (EOL) and high voltage controller (HVC) testers with new **Golang** stack, incorporating novel tester software architecture now adopted by a team of **20+** engineers. Accomplished 100 % speedup across testers to exceed vehicle production target minimums, while improving first pass yield and software/hardware equipment maintainability metrics.
- Architected a first of its kind hardware abstraction layer (HAL) library to control electronic measurement devices used in M3/Y/S production testers. Enables software in the loop testing as well as increased flexibility by unblocking development dependencies on equipment.
- Created repository templates to generate code skeletons for all Tesla testers, increasing consistency and reducing ramp up time.
- Developed a configurable, type agnostic systemd service to store critical production data for M3/Y/S testers utilizing an AWS S3 backend.
- Built a tool for production teams to manage application secrets via ansible deployments, eliminating dependencies on internal IT teams.
- Created a client to aggregate tester results and related information in real time on production lines through RESTful APIs.
- Automated firmware release processes on M3/Y/S production lines to eliminate dependencies on engineers for firmware trials / cutovers.
- Added CI via github actions to run on pull requests to enfore **golangci-lint**, **gofmt**, and **go build** standards on every PR.
- Directly mentored 4 interns and 2 full time hires in ramping to a new tech stack, increasing team wide output and scope of projects.

SciTec Inc. *Princeton, NJ*

ASSOCIATE SOFTWARE ENGINEER – *C++* *December 2019 – October 2020*

- Independently developed a multithreaded, menu based user interface on a Matrix Orbital LCD display to control testing instruments for use by lab technicians, implemented in modern C++.
- Led the initiative to transition existing SVN project repositories to Git repositories to facilitate collaboration and improve release organization. Educated and mentored engineers to familiarize them with Git.
- Developed a client GUI (utilizing Qt) to communicate and control an embedded system from a host computer.
- Implemented instrument identification based on one-wire eeprom parts, allowing per device, unique software releases.

Romeo Power Technology *Los Angeles, CA*

SOFTWARE ENGINEERING INTERN – *C++, Python* *May 2019 – September 2019*
SOFTWARE ENGINEERING INTERN *May 2018 – September 2018*

- Led a pilot project for a battery simulator system used for Battery Management System (BMS) test and validation by **10+** engineers.

Education

Rutgers University *New Brunswick, NJ*

M.S. IN COMPUTER ENGINEERING **(GPA 3.8)** *Sept. 2019 – May 2020*
B.S. IN COMPUTER ENGINEERING, **MINOR** IN COMPUTER SCIENCE **(GPA 3.6 - MAGNA CUM LAUDE)** *Sept. 2016 – May. 2019*

Activities/Societies: IEEE, Eta Kappa Nu (HKN) Honors Society, Access to Education (A2E), Intramural Sports, Rutgers Dance Marathon