

Dilawar Singh

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Experienced system engineer (multiple domains) and fullstack developer with significant tech lead experience looking for IC roles. I can manage small teams, build teams, and mentor juniors. FOSS contributor and [reviewer](#).

Skills

Languages: Rust, C++, Python, PHP, Typescript/JS, SQL, \LaTeX . (*familiar*) Haskell, SystemC, Verilog, VHDL.

Libraries & Frameworks: Boost, Win32 API, PyBind11, OpenCV; Python data stack; Leptos; Vue3, React, HTMX; Codeigniter, Laravel; Axum, Actix, FastAPI; [Cordova](#), [Quasar](#).

Simulation & Modeling: KiCAD, OpenSCAD; ModelSim, NgSpice; MOOSE, Neuron, Smoldyn; PlantUML, TikZ;

Tech & Ops: Git, Docker, CMake, PyInfra/Ansible, Shell scripting/Lua; Jenkins/Gitlab Runners; Grafana; eBPF; Packaging (nsis, deb, rpm), [Open Build Service](#);

Databases: PostGreSQL, MariaDB, Sqlite3, DuckDB, VictorialMetrics. Phinx, Alembic, SQLAlchemy, SQLX/Diesel.

Misc: Literature survey and analysis, Parsing, Network Flows, Graphs, Linear Algebra, Combinatorics, Computer Vision, Probabilistic DSA, BDD & Model Checking, DSP, Routing; Android, RTOS, Linux

Experience

Senior Engineer, *Dagnosis, Bengaluru*

Jan 2025 – current

- Added SLAM to existing canine kit that generates 3D model of arena to enable certain use-cases for demo-day
- Build data APIs and portals from scratch to collect medical data at remote locations
- Setup hiring pipelines, interviewed and hired 5 engineers to increase team sizes to 11 in 3 months

Cofounder & CTO, *Subconscious Compute, Bengaluru*

Dec 2019 – Dec 2024

- Cofounded a endpoint cybersecurity startup after my PhD and took it through pre-series A
- Hired and led a team of 15 system engineers to build our flagship endpoint security product Shepherd
- Wrote kernel minifilter, designed core algorithms, and setup devops for cross-platform deployment

Research Fellow & GSoC Mentor

2016 – 2018

- Added various numerical solvers in [MOOSE](#) simulator that allowed broader use in multiscale problems
- Mentored GSoC participants of INCF for 3 years on GPU/CUDA effort resulting in faster simulations

Firmware Engineer, *Kritikal Solutions, Noida*

Jul 2009 – Jun 2010

- Implemented Kalman filter based image stabilizer that removed most vibration artifacts from recorded videos

Projects

- Wrote [NCBS Hippo](#) being used by >1000 people on campus. It automatically & "optimally" schedule annual thesis seminars, manages meeting rooms and institute public calendar. Wrote accompanying Android App ([Google Play](#)). Hippo saved thousands of trips and emails to academic office.
- Built a [Behaviour Box](#) that automated training session making multiple sessions possible in a day!
- Wrote and maintain a few [rust crates](#): stream processing, WMI interface, a few cli utilities
- Wrote and maintain a few [python packages](#): a popular utility to extract [data from images of plots](#), Notion/Gitlab bridge for internal use, a UI for oscilloscope and a simple plagiarism detector [CodeSniffer](#) as teaching assistant
- Wrote python bindings and maintain [wheels](#) for two major C++ academic simulators [Smoldyn](#) and [MOOSE](#)

Education

PhD, Computational Neuroscience, NCBS Bangalore (TIFR Mumbai), India

2019

PhD, Digital Systems, IIT Bombay, *withdrawn*

2013

Master of Technology, Electrical Engineering (VLSI), IIT Bombay

2009