Galaba Vamsi

Robotics Software Engineer | New Grad, May 2027 galabavamsi12@gmail.com
galabavamsi.com | linkedin.com/in/galabavamsi | github.com/Galabavamsi

SUMMARY

I build robot data, evaluation and simulation tools; 15 merged PRs and 11 issues at 3 YC robotics startups.

EDUCATION

B.Tech. in Mechatronics, Indian Institute of Technology (IIT) Bhilai Aug 2023 – May 2027
Coursework: Optimal Control, Advanced Control Theory, Deep Learning for Computer Vision, AI and ML, DSA

EXPERIENCE

Co-founder, Robotropic (physical-AI startup) | robotropic.com Oct 2026 – Present
- Building Harness to roll out new robot policies (VLA checkpoints) cell by cell, with shadow-run scorecards and rollback.
- Lead its factory simulator and change gateway, which checks every human or AI-agent action against safety limits.

Research Intern, IIT Bhilai | Advisor: Dr. Arzad Alam Kherani May 2025 – Jul 2025
- Built RIS-SIM, an open-source Python emulator for smart radio surfaces (RIS); co-author, IEEE INDICON 2025.

OPEN-SOURCE CONTRIBUTIONS

HFlow, Hebbian Robotics (YC S26): 8 merged PRs, 7 issues filed (all fixed) Sep 2026 – Oct 2026
Robot training-data SDK | Python, Apache Arrow, MCAP, LeRobot | github.com/Hebbian-Robotics/hflow
- Fixed robot-log export silently dropping any field missing from the first message (PR #657); 9 regression tests.
- Unified path checks across CLI, server and SDK (PR #360, 13 files); stopped silent 12-bit depth loss (#400).

Inspect Robots, Robocurve (YC S26): 2 merged PRs, 3 in review, paper co-author Sep 2026 – Oct 2026
Evals for LLM and VLA robot policies | Python | github.com/robocurve/inspect-robots
- Merged: configurable LLM-API retries honoring Retry-After across 5 protocols, 22 test cases (PR #476).
- In review: checkpoint/resume for long robot evals; safety and hardware halts never retried; 80 tests (#514).
- Published inspect-robots-wandb on PyPI: Weights & Biases logging for robot-policy evals, 100% test coverage.

Cerulion (YC S24), open-source robot operating system: 5 merged PRs, 4 issues filed Oct 2026
Rust | github.com/cerulion-inc/cerulion
- Made ros2 attach --dry-run work outside a workspace: new Rust module, 217 lines, 8 tests (PR #216).

PROJECTS

VLA Policy Fine-Tuning on Robot Arms (π0.5) 2026
Python, PyTorch | private work
- Fine-tuned and trained π0.5 vision-language-action (VLA) policies with custom training runs for robot-arm manipulation.

World Model for Robot Manipulation: JEPA on LeRobot Push-T Aug 2026
PyTorch | write-up: galabavamsi.com/blog
- Trained a 1.9M-parameter action-conditioned world model on 160 Push-T episodes in 7 minutes on an 8 GB GPU.
- Its latents captured the block's state, but rollouts drifted after 2 steps and planning scored 0; published the analysis.

Pneumatic Sorting Digital Twin 2026
Unity, C# | github.com/Galabavamsi/pneumatic-sorting-digital-twin
- Simulated 3 electropneumatic training kits (10k lines of C#) with PLC-style inputs and outputs and an operator HMI.
- Added fault injection (E-stop, low pressure, air leak, stuck actuator, failed sensor) and a 10 Hz telemetry log with replay.

Charter: agentic commerce (Razorpay AI Buildathon) 2026
TypeScript, Fastify, React, PostgreSQL | github.com/Galabavamsi/charter | live (test mode): charter.humanslop.in
- Routed chat, voice and an 11-tool MCP server through one checkout API, so AI agents get no side door to payments.

sremu: timed radio-control emulator 2026
Python, ZeroMQ, GNU Radio | solo, built with Claude Code | github.com/Galabavamsi/sremu
- On AWS, 99.8%+ of control commands sent 4 ms ahead took effect at their exact radio sample; 2,136 passing tests.

SKILLS

Robotics: ROS 2 (rclpy, ros2_control, URDF/Xacro), Gazebo, MuJoCo, Unity, MATLAB/Simulink, MCAP, LeRobot
Robot learning: VLA fine-tuning (pi0.5), world models (JEPA), policy evaluation, inverse kinematics, LQR
Languages: Python, C, C++, Rust, TypeScript, SQL
Tools: Linux, Git, Docker, GitHub Actions, pytest, PyTorch, Apache Arrow, Weights & Biases, GNU Radio

ACHIEVEMENTS

- Top 8 Grand Finalist of 4,500+ teams, RAKSHAM AI Cybersecurity Hackathon (IIT Delhi, I4C and Amazon), 2026
- 5th of 23 IITs, Arista challenge, Inter IIT Tech Meet 14.0 (2025); 5th of 232 teams, WEAR Challenge, Kaggle (2026)
- Prime Minister's Scholarship Scheme scholar (2024); Top 1% in JEE Advanced; YC Startup School, Bengaluru

PUBLICATIONS

- Co-author, *Inspect Robots: Evaluating the Capabilities and Safety of Embodied AI* (Robocurve), CoRL 2026 workshop
- Co-author, 2 RIS papers: IEEE INDICON 2025 and *Ad Hoc Networks* (Elsevier, 2026)
- Sole author, *Timed RIS Control in the Loop* (sremu), draft in preparation for arXiv