ILLYA STARIKOV

✉ illya@starikov.co
📞 +1 ████████████
📍 San Francisco Bay Area
⌨ @illyaStarikov | 🔗 @illyastarikov
ih·LEE·stah·REE·kohw | He/Him | 🇺🇦🇺🇸

Software Engineer, Google, 8 years. Shipped **10M+** Pixel, Nest, and Beam devices. Built ML systems across **7** product lines: anomaly detection via clustering, failure classification (**98.5%** accuracy), quality regression (**±0.5 dB**). Production-hardened, research-ready.

EXPERIENCE

Software Engineer — Research, Labs
Google Beam — *San Francisco Bay Area*

1/2025 — Camera Team

- Owned camera hardware-in-the-loop test (HILT) infrastructure, enabling new tests, hardware, and platforms
  - Eliminated **105**-day camera HILT failure streak within **1** month of start-date, resolved **10+** blocking issues
  - Collaborated with team to improve pass rate from **30%** to **100%**, grow suite from **10** to **30+** tests
- Re-architected camera software updater for multi-peripheral support, integrating new hardware configurations
- Drove cross-platform integration spanning device state management, client services, networking, and OS layers
- Reduced system image by **30%** (**700 MB**), implemented CI/CD presubmit checks, and built developer tooling
- Achieved code approval from Google Fellow **Sanjay Ghemawat** ("Sanjay Number of **1**")

9/2023 — Platforms

- Designed end-to-end factory software architecture, **adopted by Google-HP partnership**
  - Aligned **25** cross-functional stakeholders spanning engineering, security, and program management
- Built secure data pipeline between Google and HP factories, enabling real-time production monitoring
- Unified factory interface through comprehensive testing and calibration framework
  - Formulated system health-checking as a factory final-assembly test via a Diagnostics framework
  - Integrated **6** mission-critical subsystems: audio, camera, displays, lighting, OS, USB
- Automated **25+** manual preflight tests, saving **2+** days of engineer time in 2024 alone

⬡ 🐍 🐚 *C++, Python, Bash*

Software Engineer — Platforms & Devices Product Area
Google Central Test Engineering — *San Francisco Bay Area*

9/2023

- Shipped **10M+ Nest Cam, Pixel Tablet, Pixel Buds Pro/2** devices as factory audio software DRI
  - Saved **$120k** in capex via test code optimizations: Nest Cam (**52%** time reduced), Pixel Tablet (**23%**)
  - Achieved **36%** faster performance than any other Google audio test suite with Nest Cam
  - Pioneered Nest's first fully-remote hardware program from prototype to mass production during COVID-19
- Shipped **6** ML analytics models for automated fault detection across **7** Nest/Pixel products
  - Applied clustering to surface **10+** previously unknown defect patterns, generating labeled datasets
  - Built classification models achieving **98.5%** accuracy, automating defect detection
  - Developed regression models predicting quality metrics within **±0.5 dB**, replacing manual measurement
- Mentored intern who built a data fusion of {"3D" Lidar + "2D" photos}, implementing feature matching via ML SuperGlue Network and OpenCV ORB, producing color depth-maps and interactive 3D reconstructions
- Spearheaded organization-wide scaling initiatives: documentation overhaul (**350** users/month, **750** sessions/month), expanded test coverage (hundreds of new test cases), standardized libraries achieving **70%** code reduction
- Created foundational tools adopted organization-wide: factory data downloader, unified audio test framework, knowledge-sharing platforms

12/2019

- Contributed **1.3M** lines of code across **16** languages to production systems

🐍 *Python* matplotlib, numpy, pandas, SciPy 🐙 ⑂ Git

∑ ——————————————————————————————— Garmin, **2y 6m 11d**

12/2019 ▲ 7/2018	**Software Engineer** **Garmin** Safety & Datalink	*Aviation* *Kansas City Area*

○ Led system testing achieving DO-178B aviation safety compliance for **GDL-60** datalink receiver
   ○ Designed test architecture, built infrastructure, and authored comprehensive test plans
○ Developed embedded software enabling configuration sync across dual OS environments (Garmin, Linux)
○ Led STEM outreach: hovercraft engineering project (presented at Kansas State ACM), mentored Bring Your Child To Work Day, conducted facility tours

C 🐍 Git

7/2018 ▲ 8/2017	**Software Engineering Intern** **Garmin** Interfaces/Data Routing	*Aviation* *Rolla, MO*

○ Built validation system for aviation tool achieving **25%** code reduction while enhancing reliability
○ Delivered **10+** quality-of-life enhancements for aforementioned aviation tool

8/2017 ▲ 5/2017	**Software Engineering Intern** **Garmin**	*Automotive OEM* *Los Angeles*

○ Improved automation suite reliability from **80%** to **100%** and achieved **5x** speed improvement through API optimization

Ⓒ Visual Studio

12/2017 4/2016	**Team Lead, DRI** **Missouri S&T Satellite Team** Stereoscopic Imaging	*Aerospace* *Rolla, MO*

○ Led **6**-person interdisciplinary team developing nanosatellite payload with real-time stereoscopic imaging and 3D reconstruction for satellite monitoring
○ Architected synchronized dual-camera system on Raspberry Pi for precise, space-based stereoscopic imaging
○ Collaborated with chief engineer to design flight software meeting aerospace standards
○ Achieved critical design review approval; satellite launch scheduled for 2026

5/2017 8/2016	**Research & Teaching Assistant** **Missouri University of Science and Technology**	*Computer Science* *Rolla, MO*

○ Built discriminative subgraph algorithm comparing execution traces from correct vs. faulty runs to automatically pinpoint buggy code
○ Taught programming fundamentals to hundreds of students across 4x classes and labs instances of Introduction to Programming and Data Structures
○ Successfully detected plagiarism, style infractions, and bugs via self-developed automation using Stanford's MOSS

12/2014 9/2014	**Assistant** **Jefferson College**	*Employment Services* *Hillsboro, MO*

Rehired 5/2015–8/2015, 5/2016–8/2016
○ Created user manual adopted as standard training resource for all new assistants
○ Managed campus-wide student employment database and designed marketing materials

8/2014 5/2014	**Web Developer** **Freelance**	*De Soto, MO*

○ Delivered **6** client projects including websites, UI/UX design, and data analytics
○ Specialized in WordPress and Bootstrap for responsive web development

5/2014 9/2013	**Assistant** **Missouri Valley College**	*Computer Lab* *Marshall, MO*

○ Provided technical support to students with Visual Basic, C, and C++ programming assignments and projects
○ Coached students in a diverse array of computer applications (Microsoft Suite, Visual Studio, etc.) and programming concepts, debugging techniques, and best practices for software development
○ Maintained and updated software installations across lab workstations, ensuring compatibility with coursework

11/2012	**Hospitality Staff**
	Villa Antonio Winery — *Hillsboro, Missouri*
	○ Assisted with dining operations: hauled dishes, cleaned facilities, and maintained service standards
	○ Directed event parking and assisted with event setup for weddings and special occasions
6/2010	○ Harvested grapes from vineyard and transported to production facility during summer seasons

Software Engineer **Google** Beam 1/2025–present
Software Engineer **Google** Beam 9/2023– 1/2025
Software Engineer **Google** Central Test Engineering 12/2019– 9/2023
Software Engineer **Garmin** Safety & Datalink... 7/2018–12/2019
Software Engineering Intern **Garmin** Interfaces/Data Routing........................... 8/2017– 6/2018
Software Engineering Intern **Garmin** Automotive OEM 5/2017– 8/2017
Bachelor of Science **Missouri S&T** Computer Science 1/2015–12/2018
Team Lead, DRI **Missouri S&T** Satellite Team 4/2016–12/2017
Research & Teaching Assistant **Missouri S&T** Computer Science 8/2016– 4/2017
Assistant **Missouri S&T** Computer Lab.. 1/2016– 4/2017
Assistant **Jefferson College** Employment Services ... 9/2014–12/2014, 5/2015–8/2015, 5/2016– 8/2016
Web Developer **Freelance**.. 5/2014– 8/2014
Assistant **Missouri Valley College** Computer Lab...................................... 9/2013– 5/2014
Hospitality Staff **Villa Antonio Winery** 6/2010–11/2012

artificial   AI algorithms: evolutionary SAT solver, chess engine with minimax/alpha-beta, A* puzzle solver.
starikov.co Independent technical writing on AI, computer science, and mathematics. **70+** posts, **14k** views/year.
.dotfiles   Multi-platform, enterprise-grade development environment with **80+** plugins, and **10+** shell tools.

EXPERTISE

tech		
	Languages	Python, C++, C, Bash, SQL
	Additional	LaTeX, Swift, C#, Lua, Perl, Assembly, Lisp, Matlab, Vimscript, Basic, AppleScript, ActionScript
	ML/AI	scikit-learn, TensorFlow, Colab, GCP Vertex AI
	Tools	Docker, Git, Make, regex, tmux, Vim, Xcode, CI/CD, Linux
	Markup	CSS, HTML, JSON, Markdown, reStructuredText, XML, YAML
	Python	Cython, matplotlib, numpy, pandas, pdb, pyenv, SciPy, sphinx, tox, venv
	C++17	abseil, Boost, catch2, lldb, STL, valgrind

impact — **8** consumer/enterprise products launched, **25+** interviews conducted, **1** intern mentored, **800+** CLs submitted, **300+** code reviews, **100+** bugs fixed, **9** managers reported to

awards — **8x** Google Peer Bonus, **5x** Google Spot Bonus, Google "Thank You" campaign recipient, {Garmin new-hire, Google Noogler oritentation, Google Beam semi-annual summit} trivia champion, Summa Cum Laude, **1st** Place MegaMiner AI, **6x** Dean's List, **18th/229** Missouri S&T ACM Competitor

EDUCATION

12/2018	**Bachelor of Science** Computer Science
1/2015	**Missouri University of Science and Technology** — *Rolla, MO*
	GPA 3.83/4.0; Major GPA **3.88/4.0** — *Summa Cum Laude*
	Advisers Dr. Jennifer Leopold, Dr. A. Ricardo Morales, Dr. Simone Silvestri, Professor Clayton Price
	Associations
	○ **ACM** Academy of Computing Machinery....................................... 2/2016–5/2018
	○ **MSAT** Missouri S&T Satellite Team..12/2017–5/2018
	○ **IEEE** Institute of Electrical and Electronics Engineers................... 1/2016–5/2017
	Coursework Artificial Intelligence, Evolutionary Computing, Data Mining, Object-Oriented Numerical Modeling, Analysis of Algorithms, Undergraduate Research, Differential Equations, Calculus, Linear Algebra, Statistics, Modern Physics, Physics, Discrete Mathematics, Web Design, Micro Embedded Design, Chemistry

Private Pilot Ground School 3/2019–5/2019

Jefferson College 8/2014–12/2014 *A+ scholarship*

Missouri Valley College 8/2013–5/2014 *Track & Field scholarship*

| 5/2013 | High School | *Diploma* |
| 8/2009 | **De Soto Senior High** | *De Soto, MO* |

Associations Cross-Country (Class **3**, **2x** All-District individual [2011–2012], **1x** All-District team [2012], **#5** team state ranking [2012]), Track & Field, Future Business Leaders of America (FBLA)

| 5/2009 | Elementary, Middle School | *Diploma* |
| 8/2000 | **Sunrise R-IX School District** | *De Soto, MO* |

Associations Cross-Country, Basketball, Computer Club, Quiz Bowl, Chess Club, Yearbook Design

Awards Presidential Fitness Award [x8, 2001–2009], School Speech Contest Winner