

# ILLYA STARIKOV

✉️ illya@starikov.co

📞 +1 [REDACTED]

📍 San Francisco Bay Area

👤 @illyaStarikov | LinkedIn @illyastarikov

EXPERIENCE | KARMA · 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 ( $\pm 0.5$  dB). Production-hardened, research-ready.

## Software Engineer

Research, Labs

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

9/2023 Software Engineer

Platforms & Devices Product Area

San Francisco Bay Area

Google Central Test Engineering

- 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  $\pm 0.5$  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
- Contributed **1.3M** lines of code across **16** languages to production systems

⌚ Python matplotlib, numpy, pandas, SciPy ⚙️ Git

12/2019

Σ

Garmin, 2y 6m 11d

12/2019	<b>Software Engineer</b>  <b>Garmin Safety &amp; Datalink</b>	Aviation Kansas City Area
	<ul style="list-style-type: none"> <li>○ Led system testing achieving DO-178B aviation safety compliance for <b>GDL-60</b> datalink receiver             <ul style="list-style-type: none"> <li>○ Designed test architecture, built infrastructure, and authored comprehensive test plans</li> </ul> </li> <li>○ Developed embedded software enabling configuration sync across dual OS environments (Garmin, Linux)</li> <li>○ Led STEM outreach: hovercraft engineering project (presented at Kansas State ACM), mentored Bring Your Child To Work Day, conducted facility tours</li> </ul>	
7/2018	<b>C</b>  <b>Git</b>	
7/2018	<b>Software Engineering Intern</b>  <b>Garmin Interfaces/Data Routing</b>	Aviation Rolla, MO
	<ul style="list-style-type: none"> <li>○ Built validation system for aviation tool achieving <b>25%</b> code reduction while enhancing reliability</li> </ul>	
8/2017		<ul style="list-style-type: none"> <li>○ Delivered <b>10+</b> quality-of-life enhancements for aforementioned aviation tool</li> </ul>
8/2017	<b>Software Engineering Intern</b>  <b>Garmin</b>	Automotive OEM Los Angeles
	<ul style="list-style-type: none"> <li>○ Improved automation suite reliability from <b>80%</b> to <b>100%</b> and achieved <b>5x</b> speed improvement through API optimization</li> </ul>	
5/2017	 <b>Visual Studio</b>	
12/2017	 <b>Team Lead, DRI</b> <b>Missouri S&amp;T Satellite Team</b> Stereoscopic Imaging	Aerospace Rolla, MO
	<ul style="list-style-type: none"> <li>○ Led <b>6</b>-person interdisciplinary team developing nanosatellite payload with real-time stereoscopic imaging and 3D reconstruction for satellite monitoring</li> <li>○ Architected synchronized dual-camera system on Raspberry Pi for precise, space-based stereoscopic imaging</li> <li>○ Collaborated with chief engineer to design flight software meeting aerospace standards</li> </ul>	
4/2016		<ul style="list-style-type: none"> <li>○ Achieved critical design review approval; satellite launch scheduled for 2026</li> </ul>
5/2017	 <b>Research &amp; Teaching Assistant</b> <b>Missouri University of Science and Technology</b>	Computer Science Rolla, MO
	<ul style="list-style-type: none"> <li>○ Built discriminative subgraph algorithm comparing execution traces from correct vs. faulty runs to automatically pinpoint buggy code</li> <li>○ Taught programming fundamentals to hundreds of students across 4x classes and labs instances of Introduction to Programming and Data Structures</li> <li>○ Successfully detected plagiarism, style infractions, and bugs via self-developed automation using Stanford's MOSS</li> </ul>	
8/2016		
12/2014	 <b>Assistant</b> <b>Jefferson College</b> <i>Rehired 5/2015–8/2015, 5/2016–8/2016</i>	Employment Services Hillsboro, MO
	<ul style="list-style-type: none"> <li>○ Created user manual adopted as standard training resource for all new assistants</li> </ul>	
9/2014		<ul style="list-style-type: none"> <li>○ Managed campus-wide student employment database and designed marketing materials</li> </ul>
8/2014	<b>Web Developer</b> <b>Freelance</b>	De Soto, MO
	<ul style="list-style-type: none"> <li>○ Delivered <b>6</b> client projects including websites, UI/UX design, and data analytics</li> </ul>	
5/2014		<ul style="list-style-type: none"> <li>○ Specialized in WordPress and Bootstrap for responsive web development</li> </ul>
5/2014	 <b>Assistant</b> <b>Missouri Valley College</b>	Computer Lab Marshall, MO
	<ul style="list-style-type: none"> <li>○ Provided technical support to students with Visual Basic, C, and C++ programming assignments and projects</li> <li>○ 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</li> <li>○ Maintained and updated software installations across lab workstations, ensuring compatibility with coursework</li> </ul>	
9/2013		

11/2012	<b>Hospitality Staff</b>	
	 <b>Villa Antonio Winery</b>	<i>Hillsboro, Missouri</i>
	o Assisted with dining operations: hauled dishes, cleaned facilities, and maintained service standards	
	o Directed event parking and assisted with event setup for weddings and special occasions	
6/2010	o Harvested grapes from vineyard and transported to production facility during summer seasons	
	 Software Engineer <b>Google Beam</b> .....	1/2025-present
	 Software Engineer <b>Google Beam</b> .....	9/2023- 1/2025
	 Software Engineer <b>Google Central Test Engineering</b> .....	12/2019- 9/2023
	 Software Engineer <b>Garmin Safety &amp; Datalink</b> .....	7/2018-12/2019
	 Software Engineering Intern <b>Garmin Interfaces/Data Routing</b> .....	8/2017- 6/2018
	 Software Engineering Intern <b>Garmin Automotive OEM</b> .....	5/2017- 8/2017
	 Bachelor of Science <b>Missouri S&amp;T Computer Science</b> .....	1/2015-12/2018
	 Team Lead, <b>DRI Missouri S&amp;T Satellite Team</b> .....	4/2016-12/2017
	 Research & Teaching Assistant <b>Missouri S&amp;T Computer Science</b> .....	8/2016- 4/2017
	 Assistant <b>Missouri S&amp;T Computer Lab</b> .....	1/2016- 4/2017
	 Assistant <b>Jefferson College Employment Services</b> .....	9/2014-12/2014, 5/2015-8/2015, 5/2016- 8/2016
	 Web Developer <b>Freelance</b> .....	5/2014- 8/2014
	 Assistant <b>Missouri Valley College Computer Lab</b> .....	9/2013- 5/2014
	 Hospitality Staff <b>Villa Antonio Winery</b> .....	6/2010-11/2012
	 <b>starikov.co</b> Independent technical writing on AI, computer science, and mathematics.	<b>70+</b> posts, <b>14k</b> views/year.
	 <b>.dotfiles</b> Multi-platform, enterprise-grade development environment with 80+ plugins, E2E tests, and <b>10+</b> shell tools.	

## EXPERTISE

tech	<b>Languages</b>	Python, C++, C, Bash, SQL
	<b>Additional</b>	LaTeX, Swift, C#, Lua, Perl, Assembly, Lisp, Matlab, Vimscript, Basic, AppleScript, ActionScript
	<b>ML/AI</b>	scikit-learn, TensorFlow, Colab, GCP Vertex AI
	<b>Tools</b>	Docker, Git, Make, regex, tmux, Vim, Xcode, CI/CD, Linux
	<b>Markup</b>	CSS, HTML, JSON, Markdown, reStructuredText, XML, YAML
	<b>Python</b>	Cython, matplotlib, numpy, pandas, pdb, pyenv, SciPy, sphinx, tox, venv
	<b>C++17</b>	abseil, Boost, catch2, lldb, STL, valgrind
impact	<b>8 consumer/enterprise products launched, 25+ interviews conducted, 1 intern mentored, 800+ CLs submitted, 300+ code reviews, 100+ bugs fixed, 9 managers reported to</b>	
awards	<b>8x Google Peer Bonus, 5x Google Spot Bonus, Google "Thank You" campaign recipient, {Garmin new-hire, Google Noogler orientation, Google Beam semi-annual summit} trivia champion, Summa Cum Laude, 1st Place MegaMiner AI, 6x Dean's List, 18th/229 Missouri S&amp;T ACM Competitor</b>	

## EDUCATION

12/2018	<b>Bachelor of Science</b> Computer Science	
1/2015	<b>Missouri University of Science and Technology</b>	<i>Rolla, MO</i>
	 <b>GPA 3.83/4.0</b> ; Major GPA <b>3.88/4.0</b>	<i>Summa Cum Laude</i>
	<b>Advisers</b> Dr. Jennifer Leopold, Dr. A. Ricardo Morales, Dr. Simone Silvestri, Professor Clayton Price	
	<b>Associations</b>	
	o <b>ACM</b> Academy of Computing Machinery .....	2/2016-5/2018
	o <b>MSAT</b> Missouri S&T Satellite Team .....	12/2017-5/2018
	o <b>IEEE</b> Institute of Electrical and Electronics Engineers .....	1/2016-5/2017
	<b>Coursework</b> 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	
	<b>Jefferson College</b> 8/2014–12/2014 <i>A+ scholarship</i>	
	<b>Missouri Valley College</b> 8/2013–5/2014 <i>Track &amp; Field scholarship</i>	
5/2013	High School	<i>Diploma</i>
8/2009	<b>De Soto Senior High</b>	<i>De Soto, MO</i>
	<b>Associations</b> Cross-Country (Class <b>3</b> , <b>2x</b> All-District individual [2011–2012], <b>1x</b> All-District team [2012], <b>#5</b> team state ranking [2012]), Track & Field, Future Business Leaders of America (FBLA)	
5/2009	Elementary, Middle School	<i>Diploma</i>
8/2000	<b>Sunrise R-IX School District</b>	<i>De Soto, MO</i>
	<b>Associations</b> Cross-Country, Basketball, Computer Club, Quiz Bowl, Chess Club, Yearbook Design <b>Awards</b> Presidential Fitness Award [x8, 2001–2009], School Speech Contest Winner	