

ILLYA STARIKOV





















illya@starikov.co
+1 [REDACTED]
San Francisco Bay Area
@IllyaStarikov | in @IllyaStarikov
il·lya·star·i·kov | 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 Google Beam Camera Team | <i>Research, Labs</i> <i>San Francisco Bay Area</i> |
| 1/2025 | <ul style="list-style-type: none">Owned camera hardware-in-the-loop test (HILT) infrastructure, enabling new tests, hardware, and platforms<ul style="list-style-type: none">Eliminated 105-day camera HILT failure streak within 1 month of start-date, resolved 10+ blocking issuesCollaborated with team to improve pass rate from 30% to 100%, grow suite from 10 to 30+ testsRe-architected camera software updater for multi-peripheral support, integrating new hardware configurationsDrove cross-platform integration spanning device state management, client services, networking, and OS layersReduced system image by 30% (700 MB), implemented CI/CD presubmit checks, and built developer toolingEarned code approval from Google Fellow Sanjay Ghemawat for fixing company-wide documentation | |
| 9/2023 | Platform Team <ul style="list-style-type: none">Designed factory software architecture adopted by Google-HP partnership for Beam manufacturing<ul style="list-style-type: none">Aligned 25 cross-functional stakeholders spanning engineering, security, and program managementBuilt secure data pipeline between Google and HP factories, enabling real-time production monitoringUnified factory interface through comprehensive testing, calibration and diagnostics framework<ul style="list-style-type: none">Integrated 6 mission-critical subsystems: audio, camera, displays, lighting, OS, USBAutomated 25+ manual preflight tests, saving 2+ days of engineer time in 2024 alone <i>C++, Python, Bash</i> | |
| 9/2023 | Software Engineer Google Central Test Engineering | <i>Platforms & Devices Product Area</i> <i>San Francisco Bay Area</i> |
| | <ul style="list-style-type: none">Shipped 10M+ Nest Cam, Pixel Tablet, Pixel Buds Pro/2 devices as factory audio software DRI<ul style="list-style-type: none">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 CamPioneered Nest's first fully-remote hardware program from prototype to mass production during COVID-19Shipped 6 ML analytics models for automated fault detection across 7 Nest/Pixel products<ul style="list-style-type: none">Applied clustering to surface 10+ previously unknown defect patterns, generating labeled datasetsBuilt classification models achieving 98.5% accuracy, automating defect detectionDeveloped regression models predicting quality metrics within ± 0.5 dB, replacing manual measurementMentored 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 reconstructionsSpearheaded 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 reductionCreated foundational tools adopted organization-wide: factory data downloader, unified audio test framework, knowledge-sharing platforms | |
| 12/2019 | <ul style="list-style-type: none">Contributed 1.3M lines of code across 16 languages to production systems <i>Python</i> matplotlib, numpy, pandas, SciPy <i>Git</i> | |
| Σ | | Garmin, 2y 6m 11d |

| | | |
|---------|---|--------------------------------------|
| 12/2019 | Software Engineer Garmin Safety & Datalink | Aviation Kansas City Area |
| | <ul style="list-style-type: none"> ◦ Led system testing achieving DO-178B aviation safety compliance for GDL-60 datalink receiver <ul style="list-style-type: none"> ◦ 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 | |
| 7/2018 |  Git | |
| 7/2018 | Software Engineering Intern Garmin Interfaces/Data Routing | Aviation Rolla, MO |
| | <ul style="list-style-type: none"> ◦ Built validation system for aviation tool achieving 25% code reduction while enhancing reliability | |
| 8/2017 | ◦ Delivered 10+ quality-of-life enhancements for aforementioned aviation tool | |
| 8/2017 | Software Engineering Intern Garmin | Automotive OEM Los Angeles |
| | <ul style="list-style-type: none"> ◦ Improved automation suite reliability from 80% to 100% and achieved 5x speed improvement through API optimization | |
| 5/2017 |  Visual Studio | |
| 12/2017 | Team Lead, DRI Missouri S&T Satellite Team Stereoscopic Imaging | Aerospace Rolla, MO |
| | <ul style="list-style-type: none"> ◦ 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 | |
| 4/2016 | ◦ Achieved critical design review approval; satellite launch scheduled for 2026 | |
| 5/2017 | Research & Teaching Assistant Missouri University of Science and Technology | Computer Science Rolla, MO |
| | <ul style="list-style-type: none"> ◦ 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 | |
| 8/2016 | | |
| 12/2014 | Assistant Jefferson College | Employment Services Hillsboro, MO |
| | Rehired 5/2015–8/2015, 5/2016–8/2016 | |
| | <ul style="list-style-type: none"> ◦ Created user manual adopted as standard training resource for all new assistants | |
| 9/2014 | ◦ Managed campus-wide student employment database and designed marketing materials | |
| 8/2014 | Web Developer Freelance | De Soto, MO |
| | <ul style="list-style-type: none"> ◦ Delivered 6 client projects including websites, UI/UX design, and data analytics | |
| 5/2014 | ◦ Specialized in WordPress and Bootstrap for responsive web development | |
| 5/2014 | Assistant Missouri Valley College | Computer Lab Marshall, MO |
| | <ul style="list-style-type: none"> ◦ 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 | |
| 9/2013 | | |





| | | |
|---------|---|---|
| 11/2012 |  | Hospitality Staff Villa Antonio Winery <i>Hillsboro, Missouri</i> |
| | | <ul style="list-style-type: none"> 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 | | <ul style="list-style-type: none"> 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, Vimscrip, 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 orientation, 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 <i>Rolla, MO</i> |
| | GPA 3.83/4.0 ; Major GPA 3.88/4.0 <i>Summa Cum Laude</i> |
| | Advisers Dr. Jennifer Leopold, Dr. A. Ricardo Morales, Dr. Simone Silvestri, Professor Clayton Price |
| | Associations |
| | <ul style="list-style-type: none"> 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 <i>A+ scholarship</i> | |
|  | Missouri Valley College 8/2013–5/2014 <i>Track & Field scholarship</i> | |
| 5/2013 | High School | <i>Diploma</i> |
| 8/2009 | De Soto Senior High | <i>De Soto, MO</i> |
|  | 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 | <i>Diploma</i> |
| 8/2000 | Sunrise R-IX School District | <i>De Soto, MO</i> |
|  | Associations Cross-Country, Basketball, Computer Club, Quiz Bowl, Chess Club, Yearbook Design | |
| | Awards Presidential Fitness Award [x8, 2001–2009], School Speech Contest Winner | |