

ILLYA STARIKOV

✉ iLLiStarikov@gmail.com
☎ +1 (XXX) XXX XXXX
🔗 Starikov.co
🌐 github.com/IllyaStarikov
📍 San Francisco Bay Area

ill-ya star-y-kov | He/Him | 🇷🇺🇺🇸

$\int_{2017} expertise$ (Data Science, Cloud, System Design) $dt = 7^+$ YoE
Software Engineer applying AI & ML to build the future of digital communication. *Pursuing opportunities to put a dent in the universe.*

VOCATION

9/2023 **Software Engineer** *Research, 🏢 Labs*

🇺🇸 **Google** Project Starline *San Francisco Bay Area*

- Designed the end-to-end factory software architecture, **adopted by Google and HP**
 - Aligned **25** cross-functional engineering managers, ICs, security council, and program management
- Brought up in-house upload server infrastructure, facilitating factory data access for Google and HP
- Implemented the standard factory interface for Starline's OS, responsible for interfacing, testing, and calibrating
 - Integrated six subsystems into said interface, including one audio functional test
 - Formulated Diagnostics framework, responsible for system health checking as a factory final-assembly test
- Contributed to the release process, automating (**> 25**) factory preflight tests into a single Bash script

9/2023 **Software Engineer** *Platforms & Devices Product Area (PDPA)*

12/2019 **Google** Central Test Engineering *San Francisco Bay Area*

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- Factory audio software DRI for **Nest Cam, Pixel Tablet, Pixel Buds Pro, Pixel Buds Pro 2**
 - **Saved \$120k in program capex** by optimizing Nest Cam (**52%**) and Pixel Tablet (**23%**) test time
 - Nest Cam's test script was **fastest within Google audio** (by **36%**) during entire tenure
 - Nest Cam was Nest's first fully-remote program, from PROTO to MP
 - Architected an ML system to make Nest and Pixel factory data more insightful and actionable
 - Pioneered **6** novel ML use-cases, across **7** programs, with accuracy up to **98.5%**
 - Example pipelines include clustering common failures from previous products, classifying said failures in future products, and using regression to produce new metrics or replace old ones
 - Hosted 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
 - Founded or co-founded efforts to scale software within entire organization: documentation overhaul (internal **350 new users/month, 750 new sessions/month**), boost software testing (**hundreds of new test cases**), test station adoption org-common or team-common libraries (**code reduction up to 70%**)
 - Implemented initial factory data downloader (adopted by org, external teams), common audio test framework (entire team), and lead forums for knowledge sharing (team participation)

Garmin, 2^{1/2} y

12/2019 **Software Engineer** *Aviation*

7/2018 **Garmin** Safety & Datalink *Greater Kansas City Area*

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- **Lead system testing effort** to meet DO-178B compliance on **GDL-60**
 - Designed new test architecture, supported test infrastructure, and wrote test plans
 - Implemented embedded software to synchronize configuration between two operating systems
 - Lead a high-school focused engineering project to build and race a hovercraft, presented at Kansas State's ACM, guided children with Bring Your Child To Work Day projects, hosted tours

7/2018 **Software Engineering Intern** *Aviation*













8/2017 **Garmin** Interfaces/Data Routing *Rolla, MO*

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- Implemented validation system for a highly-utilized aviation tool, resulting in **25% code reduction** in affected classes

8/2017 **Software Engineering Intern** *Automotive OEM*

5/2017 **Garmin** *Greater Los Angeles Area*






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- Enhanced reliability (**80% to 100% success rate**) and execution time (**5× speed up**) of automation suite by developing on-device APIs and consuming new, optimized APIs in test suite

12/2017	Team Lead & DRI Aerospace
4/2016	Missouri S&T Satellite Team Stereoscopic Imaging <i>Rolla, MO</i> <ul style="list-style-type: none"> Lead 6 person team of undergraduate and graduate students to deliver nanosatellite payload: mid-flight, stereoscopic capture (via MR SAT) and 3D reconstruction of a paired satellite (MRS SAT) Wrote synchronous flight capture code across 2× cameras to run on-device (Raspberry Pi) Collaborated with chief engineer, program manager, and program subsystems to architect flight code Satellite is undergoing testing and reviews, scheduled for launch on Summer 2024
5/2017	Undergraduate Teaching Assistant <i>Computer Science</i>
8/2016	Missouri University of Science and Technology <i>Rolla, MO</i> <ul style="list-style-type: none"> Taught programming concepts to freshman/sophomore-level students across 3× classes: Introduction To Programming (Class+Lab), Data Structures (Lab) Created assignments, graded assignments, tests for class sizes upto 60 students Automated grading with tools to detect plagiarism, styleguide conformance, and course-specific rules
12/2014	Assistant <i>Employment Services</i>
9/2014	Jefferson College <i>Hillsboro, MO</i> <i>Rehired 5/2015–8/2015, 5/2016–8/2016</i> <ul style="list-style-type: none"> Created user manual to serve as a guide for all new employment services assistants Maintained large student-employment databases via college's content management system Designed posters, fliers, and newsletters for campus announcements
8/2014	Web Developer
5/2014	Freelance <i>De Soto, MO</i> <ul style="list-style-type: none"> Supported 6 projects for various clients: creating websites, mockups, data mining, data entry Specialized in Wordpress and Bootstrap frameworks, crafting sites to meet client's requirements
	Software Engineer Project Starline Google 9/2023–present
	Software Engineer Central Test Engineering Google 12/2019–9/2023
	Software Engineer Safety & Datalink Garmin 8/2017–6/2018
	Software Engineering Intern Interfaces/Data Routing Garmin 8/2017–6/2018
	Software Engineering Intern Automotive OEM Garmin 5/2017–8/2017
	Bachelor of Science Computer Science Missouri S&T 1/2015–12/2018
	Team Lead & DRI Missouri S&T Satellite Team 4/2016–12/2017
	Undergraduate Teaching Assistant Computer Science Missouri S&T 8/2016–4/2017
	Computer Lab Assistant Missouri S&T 1/2016–4/2017
	Employment Services Assistant Jefferson College 9/2014–12/2014, 5/2015–8/2015, 5/2016–8/2016
	Web Developer Freelance 5/2014–8/2014
	Computer Lab Assistant Missouri Valley College 9/2013–5/2014

ATTRIBUTES

tech	Languages Python, C++, C, Bash, SQL, \LaTeX <i>Previous</i> Swift, C#, Lua, Perl, Assembly, Lisp, Matlab, Vimscript, Basic, AppleScript, ActionScript ML scikit-learn, TensorFlow, Colab, Google Cloud Platform (GCP) Tools Docker, Git, i3wm, Make, regex, tmux, Tmuxinator, Vim, Xcode & iOS toolchain, ZSH 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
stats	7 consumer projects, 15⁺ interviews conducted, 1 intern hosted, > 700 CLs submitted, > 100 “tickets” closed, 8 managers reported to
kudos	8× Google Peer Bonus, 3× Google Spot Bonus, Googler Thank You Campaign receipt, {Garmin new-hire, Google new-hire, Starline} trivia winner, 1st Place MegaMiner AI, Summa Cum Laude honors, 6× Deans List Award, 18th/229 Missouri S&T ACM SIG Competition ranking

EDUCATION

12/2018	Bachelor of Science <i>Computer Science</i>
1/2015	Missouri University of Science and Technology <i>Rolla, MO</i>
	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 Academy of Computing Machinery (ACM) [2/2016–5/2018], Missouri S&T Satellite Team (MSAT) [12/2017–5/2018], Institute of Electrical and Electronics Engineers (IEEE), [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>Cross-Country/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, 2× All-District individual [2011–2012], 1× 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