


# ILLYA STARIKOV

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📍 San Francisco Bay Area

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

## VOCATION

9/2023	<b>Software Engineer</b> <i>Research, <math>\Delta</math> Labs</i>  <b>Google</b> Project Starline <i>San Francisco Bay Area</i> <ul style="list-style-type: none"><li>Designed the end-to-end factory software architecture, <b>adopted by Google and HP</b><ul style="list-style-type: none"><li>Aligning <b>25</b> cross-functional engineering managers, ICs, security council, and program management</li></ul></li><li>Brought up in-house upload server infrastructure, facilitating factory data access for Google and HP</li><li>Implemented the standard factory interface for Starline's OS, responsible for interfacing, testing, and calibrating<ul style="list-style-type: none"><li>Integrated six subsystems into said interface, including one audio functional test</li><li>Formulated Diagnostics framework, responsible for system health checking as a factory final-assembly test</li></ul></li><li>Contributed to the release process, automating (<math>&gt; 25</math>) factory preflight tests into a single Bash script</li></ul>
9/2023 12/2019	<b>Software Engineer</b> <i>Platforms &amp; Devices Product Area (PDPA)</i>  <b>Google</b> Central Test Engineering <i>San Francisco Bay Area</i> <ul style="list-style-type: none"><li>Factory audio software DRI for <b>Nest Cam, Pixel Tablet, Pixel Buds Pro</b><ul style="list-style-type: none"><li><b>Saved \$120k in program capex</b> by optimizing Nest Cam (<b>52%</b>) and Pixel Tablet (<b>23%</b>) test time</li><li>Nest Cam's test script was <b>fastest within Google audio</b> (by <b>36%</b>) during entire tenure</li><li>Nest Cam was Nest's first fully-remote program, from PROTO to MP</li></ul></li><li>Architected an ML system to make Nest and Pixel factory data more insightful and actionable<ul style="list-style-type: none"><li>Pioneered <b>6</b> novel ML use-cases, across <b>7</b> programs, with accuracy up to <b>98.5%</b></li><li>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</li></ul></li><li>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</li><li>Founded or co-founded efforts to scale software within entire organization: documentation overhaul (internal <b>350 new users/month, 750 new sessions/month</b>), boost software testing (<b>hundreds of new test cases</b>), test station adoption org-common or team-common libraries (<b>code reduction up to 70%</b>)</li><li>Implemented initial factory data downloader (adopted by org, external teams), common audio test framework (entire team), and lead forums for knowledge sharing (team participation)</li></ul>
Garmin, $2\frac{1}{2}$ y	
12/2019 7/2018	<b>Software Engineer</b> <i>Aviation</i>  <b>Garmin</b> Safety & Datalink <i>Greater Kansas City Area</i> <ul style="list-style-type: none"><li><b>Lead system testing effort</b> to meet DO-178B compliance on <b>GDL-60</b><ul style="list-style-type: none"><li>Designed new test architecture, supported test infrastructure, and wrote test plans</li></ul></li><li>Implemented embedded software to synchronize configuration between two operating systems</li><li>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</li></ul>
7/2018 8/2017	<b>Software Engineering Intern</b> <i>Aviation</i> <b>Garmin</b> Interfaces/Data Routing <i>Rolla, MO</i> <ul style="list-style-type: none"><li>Implemented validation system for a highly-utilized aviation tool, resulting in <b>25% code reduction</b> in affected classes</li></ul>
8/2017 5/2017	<b>Software Engineering Intern</b> <i>Automotive OEM</i>  <b>Garmin</b> <i>Greater Los Angeles Area</i> <ul style="list-style-type: none"><li>Enhanced reliability (<b>80% to 100% success rate</b>) and execution time (<b>5x speed up</b>) of automation suite by developing on-device APIs and consuming new, optimized APIs in test suite</li></ul>






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

## ATTRIBUTES

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

## EDUCATION

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12/2018	<b>Bachelor of Science</b> <i>Computer Science</i>
1/2015	<b>Missouri University of Science and Technology</b> <i>Rolla, MO</i>
	<b>GPA 3.83/4.0; Major GPA 3.88/4.0; Summa Cum Laude</b>
	<b>Advisers</b> Dr. Jennifer Leopold, Dr. A. Ricardo Morales, Dr. Simone Silvestri, Professor Clayton Price
	<b>Associations</b> Academy of Computing Machinery ( <b>ACM</b> ) [2/2016–5/2018], Missouri S&T Satellite Team ( <b>MSAT</b> ) [12/2017–5/2018], Institute of Electrical and Electronics Engineers ( <b>IEEE</b> ), [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>Cross-Country/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 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	<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 [×8, 2001–2009], School Speech Contest Winner