















# ILLYA STARIKOV

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Obsessing over focusing on improving the future of digital communication. *Striving to make an impact on the world.*

## EXPERIENCE


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- 9/2023  **Software Engineer** *Research, 🏢 Labs*  
**Google** Project Starline *San Francisco Bay Area*
- 9/2023 **Software Engineer** *Devices & Services Product Area (DSPA)*  
12/2019  **Google** Central Test Engineering *San Francisco Bay Area*
- 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)
  - Factory audio software DRI for Nest Cam, Pixel Tablet, Pixel Buds Pro
    - **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
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- 12/2019 **Software Engineer** *Aviation*  
7/2018  **Garmin** Safety & Datalink *Greater Kansas City Area*
- **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*
- Implemented quality-of-life improvements for a highly-utilized aviation tool
  - Implemented validation system for said tool, resulting in **25% code reduction** in affected classes
- 8/2017 **Software Engineering Intern** *Automotive OEM*  
5/2017  **Garmin** *Greater Los Angeles Area*
- Brought-up and maintained automation suite to assess the performance of navigation routing
  - 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 *Rolla, MO*
- **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	<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 plagirism, 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</i> 5/2015–8/2015, 5/2016–8/2016 <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 <b>6</b> 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

## TECHNICAL

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> Git, i3wm, Make, regex, tmux, Tmuxinator, Vim, 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> Boost, catch2, lldb, STL, valgrind
stats	<b>7</b> consumer projects, <b>15</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>7×</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

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

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

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

5/2013 High School *diploma*

8/2009 **De Soto Senior High** *De Soto, MO*

 **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 *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