ILLYA STARIKOV

[redacted]@starikov.co
+1 [redacted]
Starikov.co
github.com/IllyaStarikov
San Francisco Bay Area

ill·ya star·y·kov | He/Him |

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

VOCATION

1/2025 | **Software Engineer** — *Research, Labs*
Google Project Starline — *San Francisco Bay Area*

- Owned internal camera hardware-in-the-loop test infrastructure/suite: enabled new tests, new hardware, executor platforms; fixed > 10 issues, triaged failures; achieved first suite **pass in 105 days** $\in 1$ month of start date
- Re-architected camera software updater for better multi-peripheral support, adding support for a new peripheral
- Implemented various quality-of-life improvements, such as saving 700 MB from, strengthening presubmit checks
- Achieved "Sanjay number" of 1 from an LGTM (code change approval) from **Sanjay Ghemawat**

C++, Bash

9/2023 – 1/2025 | **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

C++, Python, Bash

9/2023 – 12/2019 | **Software Engineer** — *Platforms & Devices Product Area (PDPA)*
Google Central Test Engineering — *San Francisco Bay Area*

- Factory audio software DRI for **Nest Cam, Pixel Tablet, Pixel Buds Pro,** and **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)
- Contributed **1.3** million lines of code, config, and artifacts across across 16 language types

Python matplotlib, numpy, pandas, SciPy git

Garmin, **2y 6m 11d**

12/2019 – 7/2018 | **Software Engineer** | *Aviation*
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

C git

7/2018 – 8/2017 | **Software Engineering Intern** | *Aviation*
Garmin Interfaces/Data Routing | *Rolla, MO*

- Implemented validation system for a highly-utilized aviation tool, resulting in $\mathbf{25\%}$ **code reduction** in affected classes
- Implemented many ($\mathbf{> 10}$) quality-of-life improvements for aforementioned tool

8/2017 – 5/2017 | **Software Engineering Intern** | *Automotive OEM*
Garmin | *Greater Los Angeles Area*

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

Visual Studio

12/2017 – 4/2016 | **Team Lead & DRI** | *Aerospace*
Missouri S&T Satellite Team Stereoscopic Imaging | *Rolla, MO*

- **Lead $\mathbf{6}$ 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 $2\times$ cameras to run on-device (Rasperry 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 – 8/2016 | **Undergraduate Teaching Assistant** | *Computer Science*
Missouri University of Science and Technology | *Rolla, MO*

- Taught programming concepts to freshman/sophomore-level students across $3\times$ classes: Introduction To Programming (Class+Lab), Data Structures (Lab)
- Created assignments, graded assignments, tests for **class sizes upto $\mathbf{60}$ students**
- Automated grading with tools to detect plagrism, styleguide conformance, and course-specific rules

12/2014 – 9/2014 | **Assistant** | *Employment Services*
Jefferson College | *Hillsboro, MO*

Rehired 5/2015–8/2015, 5/2016–8/2016

- 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 – 5/2014 | **Web Developer**
Freelance | *De Soto, MO*

- Supported $\mathbf{6}$ 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
Previous Swift, C#, Lua, Perl
Assembly, Lisp, Matlab, Vimscript, Basic, AppleScript, ActionScript
ML scikit-learn, TensorFlow, Colab, GCP Vertex AI
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
8 consumer/enterprise projects, $\mathbf{15}^{+}$ interviews conducted, **1** intern hosted, $>$ **800** CLs submitted, $>$ **300** code reviews, $>$ **100** "tickets" closed, **9** managers reported to

kudos
8× Google Peer Bonus, **4**× Google Spot Bonus, Googler Thank You Campaign receipient, {Garmin new-hire, Google new-hire, Starline} trivia winner, $\mathbf{1}^{\text{st}}$ Place MegaMiner AI, Summa Cum Laude honors, **6**× Dean's List Award, $\mathbf{18}^{\text{th}}/\mathbf{229}$ Missouri S&T ACM SIG Competition ranking

EDUCATION

12/2018
1/2015
Bachelor of Science Computer Science
Missouri University of Science and Technology *Rolla, MO*
GPA $\mathbf{3.83}/4.0$; Major GPA $\mathbf{3.88}/4.0$; *Summa Cum Laude*
Advisers Dr. Jennifer Leopold, Dr. A. Ricardo Morales, Dr. Simone Silvestri, Professor Clayton Price
Associations
- **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 *A+ scholarship*
Missouri Valley College 8/2013-5/2014 *Cross-Country/Track & Field scholarship*

5/2013
8/2009
High School *diploma*
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
8/2000
Elementary, Middle School *diploma*
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