

# Sergey Mukhin, PhD

Millbrae, CA | 213.284.5416 | [fastboatster@gmail.com](mailto:fastboatster@gmail.com)

LinkedIn: [linkedin.com/in/sergey-mukhin](https://www.linkedin.com/in/sergey-mukhin)

GitHub: [github.com/fastboatster](https://github.com/fastboatster)

AngelList: [angel.co/sergey-mukhin](https://angel.co/sergey-mukhin)

## TECHNICAL SKILLS

- Mobile:** Swift, XCTest, AVFoundation, UIKit, Core Data, Xcode, Git, Firebase, SQL, Jenkins
- Data:** Python, Pandas, Numpy, R, tidyverse, Bioconductor

## PROFESSIONAL EXPERIENCE

### Genentech | Data Engineer | South San Francisco, CA

Mar 2017 - Present

- Created analysis-ready clinical and biomarker datasets using R, providing data analysts across entire Genentech/Roche holding with access to 10 clinical trials' data.
- Built R package for processing Foundation Medicine's gene mutation data reports, reducing processing time by ~70%.
- Implemented pipeline for cataloging and mining sample metadata from bioassay results files utilizing R and Python, optimizing processing time of ~250,000 clinical trial data files from 2 months to 10 days.
- Developed standard operating procedures and created R package encapsulating common functionality, minimizing onboarding time for new data integrators by at least 2 weeks.

## EDUCATION

PhD in Chemistry, *University of Southern California*

Dec 2016

Masters in Computer Science, *University of Southern California*

Aug 2015

Diploma in Chemistry, *Moscow State University*

Jun 2008

## PROJECT WORK

### VDubReader | Software Engineer, iOS

Mar 2018 - Present

*Platform for VW/Audi vehicles' dealer-level diagnostics comparable to commercial Windows-only and Android software with 500,000+ installs.*

- Using Swift's Grand Central Dispatch framework, created custom networking layer implementing VW's KWP2000 over TP2.0 communication protocol with self-contained, reusable, and testable components.
- Employed ubiquitous and inexpensive OBD-II Wi-Fi dongles to connect to car and Swift platform, providing auto diagnostics 4X cheaper than the competition.
- Crafted adaptive UI, designed data model and connected to network layer following MVC pattern in Swift; designed artwork (4 icons and 1 background image) using Sketch.
- Implemented user authentication, crash reporting and engagement tracking utilizing Firebase Swift SDK.

### Weenix Core Functionality Implementation | Software Engineer

Feb - May 2015

*Implemented missing core functionality of toy operating system using C as member of student team during Operating System's course.*

- Applied project and source code management fundamentals by working in team of 4 graduate students, understanding non-trivial C codebase of production-level size (20,000+ lines of code).
- Implemented threads, processes, mutexes, virtual file and virtual memory systems, learned concurrency constructs and OS resource management concepts directly applicable to userspace code performance utilizing C.

### Mission Science iRobots | Software Engineer | [code](#)

Feb - May 2015

*WPF/C# platform for teaching neighborhood elementary school children how to program "iRobot Create" robot.*

- Created custom UI controls tailored to elementary school children, increasing user acceptance rate by over 40%.
- Using WPF/C#, developed visual programming feature allowing users to compose robot's programming through dragging-and-dropping UI elements representing various commands onto app's canvas area.
- Implemented validity checks and translation of resulting visual program to C code executed by "Create" robot.

## PUBLICATIONS

"Blends of polystyrene sulfonic acid copolymers and polyvinylidene fluoride as polyelectrolyte membranes",

*Dissertation, University of Southern California*

2016

" $\pi$ -Extended Dipyrins Capable of Highly Fluorogenic Complexation with Metal Ions",

*J. Am. Chem. Soc. 132 (28), 9552*

2010

"Boron-Oxygen Bond Formation by Palladium-Catalyzed Etheration of 2-Iodo-paracarborane",

*Organometallics*, 2009, 28 (16), 4758

2009

"Catalytic amidation of 9-I-meta-carborane and 2-I-para-carborane at a boron atom",

*Organometallics*, 2008, 27 (22), 5937

2008