

# Foat Akhmadeev

SENIOR SOFTWARE ENGINEER

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## Summary

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Software engineer with 9+ years of professional experience. Most recent experience includes Java (10+ years), Scala (7+ years) and Kotlin (1+ years) development. Previous experience includes 3+ years of C++ development and 2+ years of project management. Notable accomplishments:

- Designed and developed complex services for various Java projects. Always delivered fully documented clean and clear code.
- Designed and developed several search systems using Apache Solr and Elasticsearch.
- Wrote a data mining system for own financial project.
- Successfully managed a small team on a Java project.
- Created three novel algorithms in the fields of computer vision and image processing.
- Wrote several publications in the field of computer vision.

Specialties: Java, Kotlin, Scala, C++ development.

## Experience

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### Lyra Solar

SENIOR SOFTWARE ENGINEER

Remote

Jul. 2019 — PRESENT

- Built elasticsearch system for searching equipments for solar design.
- Designed and developed an algorithm for maximizing the roof area available for solar panels.
- Various contributions to help building permit packages.

Related skills: Java, Unit testing, Mocking, Spring Boot, Git, MySQL, Elasticsearch, OpenAPI, Postman ITs.

### foat.me

SENIOR SOFTWARE ENGINEER

Worldwide

Feb. 2015 — PRESENT

Working on several own projects:

- Currently working on an investment portfolio management tool with backtesting features.
- Wrote some software developments articles on a personal website: [foat.me](https://foat.me). It mostly includes Scala articles.
- Designed and wrote a complex data mining system for a financial project.

Related skills: Scala, Java, R, Python, Kotlin, DevOps, Unit testing, JavaScript, C++, Spring Framework, Play framework, Build automation tools, Git, Apache Solr, Sql.

### Kapital Trading

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Remote

Aug. 2015 — Jun. 2019

- Contributed to a complex multi-threaded trading system.
- Contributed to an open-source crypto currency library [xchange-stream](#)

Related skills: Java, DevOps, Unit testing, Mocking, TDD, BDD, Build automation tools, MySQL.

### Self-employed

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Remote

Feb. 2015 — Aug. 2015

Worked on several projects, listed some notable ones:

- Wrote a book in the fields of computer vision and web development: [\[1\]](#).
- Designed and implemented robust and fast algorithm for multiply chalkboard detection. It works in real-time and processes more than 40 HD images per second on a regular computer. The pixel precision is higher than 90%.
- Created a Java throttling framework from scratch using Spring MVC and AspectJ.

Related skills: Java, DevOps, Unit testing, Mocking, Aspects, TDD, BDD, JavaScript, C++, Spring Framework, OpenCV, Build automation tools, Git, Computer vision, Image processing.

## Center for Machine Perception

COMPUTER VISION RESEARCHER

Prague, Czech Republic

Nov. 2014 — Jan. 2015

Worked as a researcher and developer on a project in the field of *Image rectification using vanishing lines and local affine frames*.

Notable achievements:

- Designed and developed a line-annotation tool on Matlab.
- Created a test system for vanishing points and lines detection algorithms using C++ and Matlab.
- Improved existing vanishing points detection algorithm.

Related skills: C++, Matlab, Unix, Git, Computer vision, Image processing.

## RoadAR

COMPUTER VISION DEVELOPER

Kazan, Russia

Jul. 2013 — Sep. 2014

Worked on a [RoadAR project](#). The application warns drivers about traffic-signs and other necessary information. Notable achievements:

- Created a novel algorithm for traffic-sign detection and recognition, which works in real-time on mobile phones. The algorithm showed a superior performance compared to many state-of-the-art approaches. The algorithm is implemented on C++.
- Designed a test system using Java for the traffic-sign detection algorithm.

Related skills: C++, Java, OpenCV, Unit testing, PostgreSQL, Swing, Maven, Android NDK, Boost library, CMake, Git, Computer vision, Image processing, Machine learning.

## Digital Zone

SENIOR SOFTWARE ENGINEER

Kazan, Russia

Apr. 2013 — Jul. 2013

- Managed a small team on a mobile version of [ulmart.ru](#) website.
- Conducted technical interviews.

Related skills: Java, MySQL, Spring MVC, Apache Solr, JavaScript, Application servers, Freemarker, Git, Maven.

## Digital Zone

SOFTWARE DEVELOPER

Kazan, Russia

Sep. 2011 — Apr. 2013

Developed complex services for several high-loaded websites. Mostly worked on [ulmart.ru](#) project. Notable achievements related to this website:

- Built a search platform based on Apache Solr.
- Created an asynchronous catalog of goods using JavaScript and Spring MVC.
- Designed and implemented a new database. This helped to remove several bottlenecks and improve the website performance.

Related skills: Java, GWT, DevOps, Spring MVC, MySQL, EJB, Apache Solr, JavaScript, Application servers, Freemarker, Version control, Build automation tools.

## Education

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### Kazan Federal University

MSC IN COMPUTER SCIENCE

Kazan, Russia

2012 — 2014

ADVISOR: EVGENY STOLOV

Fields of interest: computer vision and image processing. Master thesis:

- 3D scene reconstruction from a single view. Resulted in a paper called *Surface Prediction for a Single Image of Urban Scenes*. It was presented in Singapore in 2014 on the [SUAS 2014](#) workshop. The article itself was published in 2015: [\[2\]](#).

Related skills: Matlab, C++,  $\text{\LaTeX}$ , Computer vision, Image processing.

### Kazan Federal University

BSC IN COMPUTER SCIENCE

Kazan, Russia

2008 — 2012

ADVISORS: EVGENY STOLOV; ALEKSANDR SHLYANNIKOV

Fields of interest: computer vision and image processing, machine learning, web development. Projects:

- Handwritten digit recognition using Java.
- E-library using GWT.

Related skills: Java, JEE, GWT, Computer vision, Image processing, Machine learning.

## It& programming skills

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<b>Main languages</b>	Java, Kotlin, Scala, C++
<b>Data analysis</b>	Matlab, R, Python
<b>Scripting languages</b>	Shell script, JavaScript
<b>Markup languages</b>	XML, JSON, HTML, CSS
<b>Query languages</b>	SQL
<b>Application and web servers</b>	JBoss, Tomcat, Jetty
<b>Revision control</b>	Git, Subversion
<b>Build tools</b>	Maven, Gradle, CMake, SBT
<b>Systems on administration level</b>	macOS, Linux
<b>Other</b>	Spring Framework, Play framework, OpenCV, Swing, Android NDK, MySQL, PostgreSQL, TDD, BDD
<b>Digital typesetting</b>	TeX, $\LaTeX$

## Languages

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**Russian** native speaker  
**English** professional proficiency

## Publications

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- [1] F. Akhmadeev, *Computer Vision for the Web*. Packt Publishing, 2015. [Online]. Available: <https://www.packtpub.com/web-development/computer-vision-web>
- [2] —, “Surface prediction for a single image of urban scenes,” in *Computer Vision - ACCV 2014 Workshops*, ser. Lecture Notes in Computer Science, C. Jawahar and S. Shan, Eds. Springer International Publishing, 2015, vol. 9008, pp. 369–382. [Online]. Available: [http://dx.doi.org/10.1007/978-3-319-16628-5\\_27](http://dx.doi.org/10.1007/978-3-319-16628-5_27)