

# Kristijan Rebernisak

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<https://github.com/krebernisak>

## INTERESTS & SKILLS

I have been reading and writing code, running servers and experimenting with new software since 2004. Most recently, the majority of code I have written has been in Java, JavaScript/TypeScript, and Solidity, but I have experience in many other programming languages and technologies. I am interested in designing and building scalable distributed systems, smart contracts and protocols on distributed networks like Ethereum, as well as native mobile and web clients.

- ▶ Full Stack Engineer experienced in algorithm & system design, API design and data modeling
- ▶ Interested in distributed and event-driven systems, product design, and agile methodologies
- ▶ Proficient in Java/Kotlin, JavaScript/TypeScript, and Solidity
- ▶ Some experience in Python, Rust, Golang, Swift and familiar with C, C++, C#, MATLAB, Ruby and many others
- ▶ Experienced with Object-oriented design, Domain-driven design, Test-driven development, and Functional programming
- ▶ Experienced with event-driven architecture (DDD, CQRS, Event Sourcing, Blockchain, RxJava, RxJS, Redux)
- ▶ Well experienced in building web, native Android and hybrid mobile applications
- ▶ Web technologies (HTML5, CSS3, SVG, DOM, AJAX, REST, SOAP, WSDL, JSON, XML)
- ▶ Relational databases and object-relational mapping (SQL, Hibernate, JDO, JPA)
- ▶ Non-Relational databases (Blockchain, Firebase, Elasticsearch, Redis)
- ▶ General knowledge of cryptography and network security
- ▶ Tools: Git/GitFlow, Gradle, Maven, UNIX/Linux, Docker, CI/Jenkins/CircleCI, ELK Stack, Jupyter

## WORK EXPERIENCE

**RunningBeta** a blockchain research company and private investment vehicle

Co-Founder and Technical Lead, Aug 2017 - Present

- ▶ Working with Solidity, EVM and Ethereum token standards on smart contract development
- ▶ Researching distributed protocol design and system architecture, token economics, mechanism design
- ▶ Launched WEINORTH, a tokenization platform built on Ethereum (ICO/KYC/Analytics).
- ▶ Working on Kittyland, an internal project, where we test and experiment with different concepts. It is a token publishing and distribution protocol for games and dApps built on top of ERC20, ERC721, and ERC998 token standards.
- ▶ Technologies: Bitcoin, Ethereum, Solidity, JavaScript, TypeScript, Truffle, web3.js, IPFS, React, Redux, Gatsby, ReactiveX (RxJS), Rust, Golang, Python

**Tolar HashNET** crypto-currency featuring scalable, fast, secure, and fair transactions

Smart Contract Engineer and Technical Advisor, Mar 2018 - Mar 2019

- ▶ Worked on smart contract Ethereum infrastructure, used by Tolar for fundraising and HashNET chain migration.
- ▶ Technologies: Ethereum, Solidity, JavaScript, TypeScript, React, Redux, ReactiveX (RxJS)

**Bellabeat** an Health-Tracking intelligence platform for women

Mobile Team Lead and System Architect, Sep 2015 – Mar 2017

- ▶ Led a team of 10 engineers (Android, iOS, QA)
- ▶ Worked on high-level system architecture and technology strategy design
- ▶ Worked on native Android mobile app, Bellabeat Leaf, architecture, and implementation
- ▶ Implemented core Java shared (Android, Backend, iOS - J2Objc) library architecture

- ▶ Led adoption of functional-reactive programming on multiple projects and platforms
- ▶ Technologies: Java/Kotlin, Android SDK, Bluetooth LE, ReactiveX (RxJava, RxKotlin, RxSwift), MVI Architecture, SQLite, Firebase, J2Objc, Elasticsearch

#### **ShoutEm** mobile app builder

Android Developer, May 2013 - Sep 2015

- ▶ Designed and developed a hybrid Android/HTML5 mobile app
- ▶ Redesigning an Android native wrapper to run the HTML5 application
- ▶ Decreased Android code base by 25% after four weeks of work
- ▶ Developed features and architecture for an HTML5 application that was deployed to thousands of users on iOS, Android and across mobile and desktop browsers
- ▶ Worked closely with server team designing backend REST API
- ▶ Led ShoutEm loyalty module team on architecture and development
- ▶ Implemented a local proxy server on Android to enable podcast streaming for US Sprint users
- ▶ Assisted in architecture planning and building of an in-house data collecting system
- ▶ Technologies: Java, Android SDK/NDK, ReactiveX (RxJava), Apache Cordova, HTML5/CSS/SVG, JavaScript, Node.js, Elasticsearch, Ruby, Python

#### **FIVE** Mobile Design and Development Agency

Android Developer, November 2012 – May 2013

- ▶ Developed Android apps for various enterprise clients like Allianz, The Hearst Corporation, Konzum and startups like Fogg Mobile and Visiobike.
- ▶ Worked on Bluetooth protocol communication with a hardware controller used by an electric bicycle
- ▶ Worked on ad hoc wifi webcam streaming in MJPEG video format
- ▶ Technologies: Android SDK/NDK, Maven, Ant, RoboGuice, Otto, kSOAP 2, Bluetooth, SQLite

#### **Real Networks**

Java EE Developer, CUEComm, April 2012 - November 2012

- ▶ SOAP API backend used by MEP Storefront
- ▶ Rewritten from the ground up for better scalability and maintenance
- ▶ Worked on extensive testing with SoapUI and JMeter
- ▶ Technologies: J2EE, Spring, SOAP, Hibernate, JBoss, Ant, Solr

Java EE Developer, MEP Storefront, February 2011 - April 2012

- ▶ Media Entertainment Platform for providing music, ringtones and ringback tones to mobile carrier users
- ▶ Designed and implemented features for some major mobile carriers in the US (MetroPCS, Verizon, Sprint) and EU
- ▶ Implemented SSO for clients applications using Oracle OpenSSO Fedlet
- ▶ Technologies: J2EE, JSP, SOAP, WSDL, JBoss Portal, Tomcat, Maven, SAML 2.0

## **EDUCATION**

**MASTER OF SCIENCE IN COMPUTER SCIENCE** June 2011

Faculty of electrical engineering and computing, University of Zagreb

**Programming Coursework:** Advanced Algorithms & Data Structures, Object-Oriented Design, Formal Methods in System Design, Advanced Operating Systems, Machine Learning, Computer Vision, Pattern Recognition, Expert Systems, Neural Networks, Internet Security

**Graduation Thesis:** Eigenphase Based Recognition System for Partially Occluded Faces

- ▶ This approach combines a Principal component analysis (PCA) with Linear discriminant analysis (LDA) using Fourier transform phase information to extract the facial features and reduce the dimensionality of the feature space
- ▶ Written in MATLAB and tested on AR Face Database and XM2VTSDB

## **BACHELOR OF SCIENCE IN COMPUTING** July 2009

Faculty of electrical engineering and computing, University of Zagreb

**Programming Coursework:** Algorithms & Data Structures, Operating Systems, Communication Networks, Information Theory, Programming Language Translation, Artificial Intelligence, Computer Graphics, System Design, Scripting Languages, Java Programming Language

**EE Coursework:** Embedded Systems, Computer Architecture, Circuits, Digital Logic Design, Signal Processing

**BSc Thesis:** Hand-written Alphanumeric Character Recognition

- ▶ Pattern recognition classification of 30 Croatian letters and numbers from 0 to 9
- ▶ Contour features were extracted using Fourier and Granlund descriptors
- ▶ K-nearest-neighbor (kNN) classification
- ▶ Written in Java

## **SIDE PROJECTS**

**KiM** ([www.kimtoys.com](http://www.kimtoys.com), [www.kimtrgovina.hr](http://www.kimtrgovina.hr)) - 2009

- ▶ Online catalog and content management system (CMS).
- ▶ Running on the Google App Engine platform.
- ▶ Written in Java on Struts 2 Framework using Struts Tiles, Java Data Objects (JDO), Apache Lucene and other.
- ▶ Redeployed as a new website in 2015 using Magento v1.8.1 e-commerce platform, running in Docker containers on Digital Ocean
- ▶ Updated to Magento v2.1.9 in 2017, running in Docker containers on Google Compute Engine