

Software Developer Software Developer Software Developer - Sparky Dots Software developer
Work Experience Software Developer Sparky Dots July 2014 to Present Designed and developed
end-to-end a platform to deliver practice sets and tests. Mobile component is published in Google
Play market: StarPractice. Created initial content that features complete client-side Math word
problem generation. Utilized AngularJS (writing in Coffeescript) for front-end, Cordova for mobile,
and Play! Framework (writing in Scala) in backend. Served through Nginx, data stored in MySQL,
hosted on AWS. Demo version is available at: <https://www.sparkydots.com/appDemo/StarPractice>
Also, worked on a Mesos scheduler (scala), supported legacy system for ViciniTalk.com service.
Python/Django framework for backend/server ViciniTalk.com November 2013 to Present November
2013 to Present ViciniTalk.com is a web and mobile service that provides a local communication
channel. Please apply to join if you find it interesting. Technologies involved: Python/Django
framework for backend/server jQuery/backbone.js/handlebars.js for Web UI Java/Android for
Mobile client Amazon Web Services cloud computing platform Google Maps API libraries
(Javascript and Android) Digital Certificates/SSL encryption Facebook login integration, custom
Facebook Open Graph Actions Comments/feedback:
<https://www.facebook.com/pages/Vicinitalk/162601847215448> StarPractice September 2014 to
Present StarPractice is a mobile app - a client for the service that helps parents give their children
practice sets on various topics, e.g. Math. Parents can pick an activity and give the device to their
child. A detailed activity summary is saved for later review. With help of modularized architecture,
administrators can add practice activities (content) on the "Activities Server", through an "Admin"
application, and distribute them to subscribed mobile app installations (distribution/platform).
Software Developer AudienceScience February 2014 to July 2014 Worked on several components
of the targeted digital marketing product. Integration with 3rd party services, address production
issues, refactor some components, increase code coverage with automated tests, codebase
cleanup where encountered, address production issues, deployments. Hystrix, Archaius, Spring, on
gradle. 5 recommendations available upon request Software Developer Amazon April 2013 to
January 2014 Implemented a monitoring system for an internal service. Upgraded existing tool

managing changes to Amazon browse graph data. Refactored legacy code for an internal tool used by site merchandisers. Observed and occasionally contributed in the system design stage of several projects dealing with a lot of data (scalability, high availability and low latency concerns). Participated in the oncall rotation, providing operational support to the services our team maintained.

Performed ad-hoc maintenance tasks for systems. Most work involved programming in java, javascript, html+css, and using knowledge about internal systems. Trading Strategist / Software Developer Susquehanna International Group March 2007 to February 2013 Built several applications for high frequency trading (C#, C++), built in risk, order/position management Was in charge of running strategies and managing a book with positions up to \$50 mln Performed quantitative analysis and backtesting, calibrated trading strategies Built a position reconciliation system and led migration from the legacy system Performed and automated multiple trading desk clerk duties Designed and built various new business intelligence/analytics tools (Data processing: Python; Server: PHP, MySQL, Oracle; Client: Javascript) Participated in the development of a statistical predictive model for price impact estimation and built a web application consuming this model Worked with a multitude of ETL jobs 7 recommendations available upon request Suhat Online Message Board April 2002 to July 2008 Message board running on LAMP stack, with PhpBB front. At its height had about 2200 registered members and was useful for the Kazakh community.

Stock Options Visualization Tool February 2008 to Present This Java application helps users see how the values of stock options change as input parameters, such as stock price, time to expiration and volatility change. Uses the Black and Scholes option pricing model and Taylor expansion to approximate the standard Gaussian cdf.

<https://www.vicinitalk.com/plainmedia/study/bopt/index.html> (available as a jar file)

Comments/feedback: <https://www.facebook.com/OptionsVisualization> Sole Proprietor Bekbolatov Motors May 2006 to November 2007 Tried my hand at running own export business, luckily closing shop before the crash of 2008. Operations included purchasing used cars from auctions in NJ, fitting them into containers, shipping by ocean and rail, handing off to a partner overseas, and a lot of business accounting. Trading Desk Analyst Bank of America April 2004 to May 2006 Business

analytics, database queries, ETL jobs, data mining, report generation. Prepared trade horizon analysis for fixed income securities, and daily attribution reports for bonds with non-zero convexity, such as MBS. Used SQL on Oracle, perl/bash script and automation, proprietary trade analysis tool Sofia, Bloomberg data, Web data. Undergraduate Researcher / Teaching Assistant Comp. Sci June 2002 to February 2003 Research area of fault-tolerance of systems made up of unreliable components, specifically in the space of algorithmic self-assembly - reduction of crystallization errors using algorithmic approach, inspired by nature's mechanisms, such as proofreading during DNA replication through DNA polymerases. Java implementation of stochastic simulation using Gillespie algorithm (based on XGrow by Dr. Erik Winfree). Perl and bash scripting for data analysis. Teaching assistant at Caltech computer science course "Decidability and Tractability". Summer Internship at IBM IBM June 2001 to August 2001 Researched and programmed data compression algorithms using arithmetic coding (as bzip, before software patent restrictions). Programming language: C++. Software Developer Kinecta May 2000 to May 2001 Java server pages/servlet programming, front-end integration. Participated in building a custom Apache module. Pixel log aggregation and analysis. (Java/JSP, C, SQL; Tomcat, Apache, Oracle) 1 recommendation available upon request Projects JGrow: Stochastic Simulation of Algorithmic Self-Assembly August 2002 to Present Simulation of the process of self-assembly of DNA-based tile molecules written in Java. Uses Gillespie algorithm to calculate trajectories of the underlying stochastic process. Download a run jar manually on a Mac, otherwise use this link to run as a jnlp: <http://dna.caltech.edu/~renat/jnlp/> Comments/feedback: <https://www.facebook.com/pages/JGrow/351163754998501> Education BS in Mathematics California Institute of Technology 2001 to 2004 Computer Science and Electrical Engineering University of California, Berkeley - Berkeley, CA 1999 to 2001

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