

Michal Garbacz

Software Craftsman

Email: michal@garbacz.io

Web: michal.garbacz.io

LinkedIn: linkedin.com/in/mgarbacz/

EXPERIENCE

Self Employed

Palo Alto, CA — Oct 2017 - Current

- **Writing a fantasy novel** → Wrote an NLP-backed web application to help organize the world-building, characters, and the story itself. (*JavaScript, Ace Editor, Amazon Web Services: Lambda, Comprehend, S3*)
- **Stock and Options Trading** → Wrote a web application to do technical analysis and keep track of trades. Currently adding machine learning capability for technical analysis. (*JavaScript, React + Redux, Tensorflow*)

Software Engineer, State Farm Insurance

Bloomington, IL & Palo Alto, CA — Jan 2013 - Oct 2017

Operating as a surgical strike force of R&D to explore the future of State Farm products and operations. I built both frontend and backend systems, often writing the core functionality in a given project and always, always learning.

Projects:

- **Public Cloud Research** → Led multidisciplinary team in primary research into public cloud use at State Farm for project teams, convincing the executive team of the value, which led to the creation of a new internal team to facilitate public cloud use. (*Amazon Web Services, Google Cloud, Microsoft Azure*)
- **Real-time Data Science and Machine Learning** → Led the design and development of a modular framework for creating applications that utilize real-time input to and output from computer algorithms running in the Hadoop ecosystem. (*Scala, Node.js, Apache Spark, Hbase, HDFS, Solr, Apache Kafka*)
- **Graph Building and Visualization** → Built a network graph containing over 500 million triplets from hundreds of gigabytes of relational data. Created visualization UI to allow exploration of the underlying data, iterative tuning of the graph creation logic, and actionable business results. (*Scala, Apache Spark, GraphX, Solr, JavaScript, vis.js*)
- **Recommendation Engine** → Developed a web application that takes live input of user data and produces real-time recommendations. User data is securely sourced from a multitude of web services and streamed to a series of continuously updating data science models to produce the recommendations. (*Scala, Apache Spark, HBase, Solr, RabbitMQ, JavaScript, Angularjs, WebSockets, Node.js*)
- **Data Visualization** → Developed a web application that feeds and consumes data stored in Hive to produce manipulable visual interpretations. (*Java, Hive, D3.js*)
- **Mobile First Design** → Developed a scorecard web application to score websites on their adherence to the mobile first design philosophy. (*Node.js, Phantom.js, Angularjs, WebSockets*)
- **Internal Hack Day** → Designed and developed the registration and informational website for State Farm's annual internal 24 hour Hackathon. (*Node.js, Material Design, Angularjs, PostgreSQL*)
- **Do-It-Yourself Graph Search** → Built a replication of Facebook's Graph Search. Presented a workshop on the topic at Desert Code Camp 2014 (apr2014.desertcodecamp.com/session/958) (*Ruby on Rails, Neo4j*)
- **Business Social Tools** → Developed backend data model and UX improvements for internal social tools. (*Backbone.js, Open Graph*)

Michal Garbacz

Software Craftsman

Email: michal@garbacz.io

Web: michal.garbacz.io

LinkedIn: linkedin.com/in/mgarbacz/

Software Engineering Intern, State Farm Research and Development Center

Champaign, IL on UIUC Campus — Feb 2009 - Dec 2012

Designed and developed a wide variety of working prototype software. Part time during the Spring/Fall semesters, and full time during the summer.

Projects:

- **Parallel Programming** → Designed and implemented a concurrent, distributed client-server system. Successfully simulated tens of thousands of clients using the system on cheap hardware. (*Erlang, Mnesia*)
- **Android Application Development** → Designed and built a context-sensitive application that uses time and location to trigger text, email, or Facebook notifications to user's contacts. (*Android*)
- **Backend Web Development** → Developed a web application with a content management system and mobile/desktop views. Worked in tight feedback cycles. (rdc.statefarm.com) (*Ruby on Rails, SQLite, MongoDB, HTML/CSS/JS*)
- **Frontend Web Development** → Developed a responsive web application powered by a RESTful API that allows users to track project progress with team members in real-time. (*HTML5/CSS3, Backbone.js, Node.js, WebSockets*)

Freelance Work

I work on a variety of projects on my own time. I open source them on Github (github.com/mgarbacz)

Highlights

- Effective Driving Machine → A little AI that drives a little 2D car around a little 2D race track ([source code](#))([demo](#))
- Nordrassil → Implemented a Word Trie in JavaScript for use with an autocomplete input tag ([source code](#))([demo](#))
- Wizards of the Future: Code Your Own Adventure → Created a workshop for high school students to learn Ruby on Rails for ISU's 2014 Education, Diversity & Information Technology conference ([source code](#))([demo](#))
- Active member of the Stack Overflow developer community. ([user:937718](#))

EDUCATION

University of Illinois at Urbana-Champaign, College of Engineering, Computer Science

Champaign, IL— 2008 to 2012

SKILLS

- Sound Knowledge → Scala, JavaScript, HTML5/CSS3, Node.js, Hadoop, Apache Spark, Apache Kafka
- Experience With → Java, Python, Ruby on Rails, Erlang, PHP, C#, F#, C++