Brian Joseph Fults

Programming Languages: Java, Clojure, (J)Ruby, some Javascript, learning Rust

Work Experience:

Senior Software Developmer: Toast, Boston, MA
February 2016 - Present
- Implemented support for embedding amounts in barcodes
- Moved payment processing workflow from asynchronous, in-memory tasks to a persistent job queue
- Replaced database event log with ElasticSearch index
- (Hackathon) Automated product mix importing for menu configuration
- (Hackathon) Voice ordering using the Amazon Echo

Software Development Engineer: Amazon, Boston, MA
April 2012 – January 2016
- Helped launch the Amazon Echo, implementing storage solutions for language and speech data.
- Rewrote synchronous, single-request workflow to incorporate AJAX requests, which significantly increased throughput for generating transcriptions and annotations
- Designed and implemented a real-time monitoring framework for a system for creating sample speech data from real spoken phrases
- Designed and implemented a highly scalable aggregation service which groups data in a secure, distributed store in near real-time

Programmer Analyst Professional: CSC, Dahlgren, Virginia
May 2009 – April 2012 (including internships, fulltime from January 2011 on)
- Implemented a system to compare tactical decision-making to specification using logfiles
- Created a language parsing system for gathering information from English emails and automatically dispersing pertinent details to various contacts
- Built a proof-of-concept for serializing objects among different languages in a multi-platform environment using CORBA and the JNI and worked on a product based on the prototype
- Provided documentation and software support for several AEGIS baselines

Undergraduate Teaching Assistant: CS Dept, Blacksburg, VA
August 2009 – December 2010
- CS 2114: Software Design and Data Structures
  - Tutored students in office hours
  - Lead lab sessions
  - Graded homework assignments, tests, and projects
- CS 2104: Problem Solving
  - Managed attendance
  - Assisted with grading and office hours as necessary

Education:

B.S., Computer Science, December 2010
Virginia Polytechnic Institute and State University, Blacksburg, Virginia
Overall GPA: 3.66/4.0 **Major GPA** 3.80/4.0

Projects:
- crochet-alignment: Uses simulated annealing and Quil to visualize placing squares of different sizes within a grid to minimize the total distance between them: https://github.com/blandflakes/crochet-alignment

- f-utility: In collaboration with Harvard Medical School researchers, implemented interactive visualizer of Next-Generation Sequencing to identify genes in MRSA conferring resistance to a panel of antibiotics (used Javascript, d3.js)
- Connoisseur: an Elm application that procedural generates tasting notes: http://blandflakes.github.io/connoisseur/
- echo-stopwatch: A stopwatch written in Clojure for the Amazon Echo
- echo-chamber: A Clojure SDK for developing voice applications for the Amazon Echo

Independent Research:
- Developed a search space for testing an intelligent agent framework
- Developed a test harness for observing different types of agents and gathering results
- Worked to research methods of making large state spaces more easily represented within memory constraints by segmenting the search space without losing information provided by a full representation