

Joseph Jackson

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EDUCATION: University of Colorado | Boulder, Colorado

November 2016: *Computer science B.A. GPA 3.875, Neuroscience B.A. GPA 3.66*

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PROGRAMMING LANGUAGES AND SKILLS

Scientific Computing

- MATLAB, AutoCAD
- R, R commander
- C, Embedded C, C++

Java and OSGI Tools

- Java, Maven, Karaf
- Spring, Eureka,

Microsoft Related Technologies

- C#, Entity, MVC, Linq
- OpenXml, COM Interop
- ASP.NET, WindowsForms
- Powershell

Cloud Technologies

- AWS EC2, AWS RDS
- AWS command line tools Powershell, boto
- Docker

Front End Technologies

- Javascript, Angular (I/II)
- JQuery, Node, React Js
- CSS/HTML
- Word Press

Database Technologies

- SQL, MySQL
- PostgreSQL
- MongoDB

PROFESSIONAL EXPERIENCE:

PointPredictive | San Diego, California (Contract)

October 2017 - December 2017

Data Science Project: *Python, PostgreSQL, AWS RDS, Selenium, Pandas, Numpy, BeautifulSoup, Word Press*

- Scrape Economic Research Institutes website for economic data (Selenium, BeautifulSoup)
- Implement application that could estimate annual income of loan candidate based on average income of candidates in the surrounding area. A PostgreSQL database populated with 2017 census data using tiger line census files was used to store U.S. demographic information. KD tree search was used to group coordinates into clusters.
- Cloud based (AWS)

FixQuicker | San Diego, California

May 2017 - October 2017

Software Engineer: *Full Stack: Java, Spring, Eureka, MySQL, AWS*

- Modifications of backend Java and MySQL to get Roles and Permission working for the website (MySQL, Java Spring)
- Development of SMFTP Email MicroService (Java Spring)
- Standing up Eureka Service Registry for future microservices (Java, Eureka)
- Implementation of UI Mock Ups (HTML, JS, CSS)
- Cloud based (AWS)

BAE Systems | San Diego, California

Jan 2017 - October 2017

Cloud Infrastructure Engineer: *Full Stack: C#, Java, Camel, Apache Karaf, Jetty, ReactJs, NodeJs, AWS, ELK Stack, Docker*

- General back end maintenance of GXP Platforms service infrastructure (Java, Camel, Karaf)
- Developed C# middleware to automate cloud deployment (C#, AWS .NET SDK, Cloud Formation)
- Development of scripts that will automate steps in the deployment of our software product on AWS (PowerShell, Bash, AWS, Cloud Formation)
- Adapting frontend and backend code to operate on a distributed cloud stack (Java, Camel, Javascript, NodeJs)
- Development of gawk parsing rules to accommodate changes to the backend/frontend infrastructure (ELK)
- Design and implement distributed configuration of Java infrastructure (Docker, AWS, Java, Cloud Formation)
- Convert Backend Java into AWS Lambda Service (AWS Lambda)

LightStanza | Boulder, Colorado (Contract)

August 2016 - November 2016

Software Engineer: *Full Stack: AngularJS, HTML, JavaScript, mongoDb, Github*

- Maintain and develop Java back end running LightStanze software (Node JS, Javascript, Angular I/II, Java)
- Responsible for design and implementation of cloud based architecture for application update (AWS, Docker, Java)

Equilibrium Solar | Boulder, Colorado (Contract)

August 2016 - September 2016

Software Engineer: *Full Stack : C#, LINQ, .NET, (COM) Interop OpenXML, AutoCAD, Github*

- Design and implement software to automate ballast weight calculations for solar panels (Windows Forms, Open XML, .NET, C#, LINQ, AutoCAD)

Corell Lab | Boulder, Colorado

May 2016 - July 2016

Research Associate/ Software Developer: *Python, Embedded C*

- Designed and implemented an algorithm for distributed average consensus of a histogram (Python)
- Re-implemented the original algorithm in embedded C on autonomous droplet robots (Embedded C)

RXIT Software Solutions | Longmont, Colorado

June 2014 - February 2015

Software Engineer: *C#, LINQ, SQL Server, MVC, Javascript, HTML, CSS, ASP.NET*

- General Backend/ Frontend development (ASP.NET, LINQ, .NET MVC, HTML, CSS, JavaScript, SQL Server)
- Development of Machine Performance Dashboard (Java, .NET MVC, Razer, Telerik)
- Development of Serial Printer Application (.NET/C#)
- Development of PDF generating Application (.NET/C#)

Hoeffler Lab | Boulder, Colorado

August 2013 - May 2014

Research Associate/ Software Developer/ IT: *Python, MATLAB, RTD*

- Aided PI in setting up signal processing system using RTD Signal Processing System
- Piped output of signal processing system into MATLAB for further analysis
- Waveform analysis using Fast Fourier Transformation in MATLAB

BURST Research Grant | Boulder, Colorado

August 2012 - August 2013

Research Associate/ Software Developer / IT : *Python*

- Conducted research on the chemotherapeutic effects of taxol
- PCR, Gel electrophoresis, microdosing assays, DNA-seq, RNA-seq
- Processed sequencing data and analyzed potential regions of interest

NOTABLE PROJECTS/ANALYTICAL APPLICATIONS:

Human Centered Computing

- Designed and implemented Web Application for buying and selling used text books using Django, Mysql and Amazon Webservices

Swarm Intelligence: (Python)

- Developed 3 Layer Neural Network from scratch using linear algebra
- Designed sentiment analyzer and classifier for unstructured and semistructured data and the pipeline using (AWS)
- Designed and implemented an algorithm for distributed average consensus of a histogram across a body of autonomous nodes
Link to paper: <https://www.overleaf.com/4577240qvkmcw#/13796255/>

Artificial Intelligence: (Python)

- Designed and implemented a search heuristic capable of finding shortest path through a graph
- Designed and Implemented Hidden Markov Model to make future decisions based on a training set of data
- Built multiple projects for advanced statistical inference, validation and modeling

Algorithms for Molecular Biology: (Python/ C++)

- Wrote Hidden Markov Model to determine sequence regions from live test data provided by

Dowell Lab (CU)

- Designed parsing program capable of identifying regions of DNA sequence that are vulnerable to CRISPR Cas9 modification inspired by Natural Language Processing techniques
- Reimplemented UNIFRAC algorithm within QIIME in C++

Computer Networks and the Internet: (C and Python)

- Implemented an Onion router using Python
- Implemented lower level chat room using C socket programming and TCP protocols
- Rewrote the simple chat room to handle multiple clients

NOTABLE COURSEWORK:

Computer science

Data structures, Computer Systems, Software Development and Tools, Computer Programming, Robotics, Discrete mathematics, Statistics, Swarm Intelligence, Artificial Intelligence, Computer Networks and the Internet, Algorithms

Graduate Level:

Computer Networks and The Internet, Swarm Intelligence

Neuroscience:

Bioinformatics and Genomics, Algorithms for Molecular Biology, Neuropharmacology, Computational Cognitive Neuroscience, Chemistry I/ II, Molecular Biology I/ II, Genetics, Organic Chemistry, Behavioral Neuroscience, Calculus I/II, Statistics for Neuroscience, Molecular Basis of Disease