**PROGRAMMING LANGUAGES AND SKILLS**

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| 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, Beautiful Soup, Word Press*

* Scrape Economic Research Institutes website for economic data (Selenium,Beautiful Soup)
* 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 grawk 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#)

Hoeffer 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

CRIPSR 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*