

# JAKE VAN ALSTYNE

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## SUMMARY

Software Developer

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Web, iOS, MacOS

Elixir, Phoenix, Ruby, Rails, React, Swift, Objective-C, C, C++

Docker, Kubernetes, GKE, AWS

## EDUCATION

M.SC. - COMPUTING - UNIVERSITY OF UTAH

2013

- Graphics and Visualization
- [Improvements to rational surface analysis in toroidal magnetic confinement fields](#)

B.SC. - CHEMICAL ENGINEERING - UNIVERSITY OF UTAH

2008

- Dean's List
- High Temperature Fixed Bed Mercury Sequestration on a Non-Carbonaceous Substrate

## EMPLOYMENT

SENIOR ENGINEER, MAVENLINK, SALT LAKE CITY, UTAH

7/2017-  
Present

- Feature enhancements and bug fixes for main application
- Maintaining existing integrations platform
- Greenfield project for the future of Mavenlink integrations

SENIOR IOS DEVELOPER, MUNKEE APPS LLC, SANDY, UTAH

10/2015-  
7/2017

- Feature enhancements and bug fixes for existing products

SENIOR IOS DEVELOPER, SELFIE INC., REMOTE

5/2014-  
9/2015

- Core iOS app development. Bug fixes, feature enhancements, etc.

IOS CONSULTANT, USANA, WEST VALLEY, UTAH

2/2014-  
6/2014

- Improved enterprise reporting modules in internal iOS application, created a custom tree based reporting view
- Short term contract position

IOS CONSULTANT, NTT DATA, REMOTE

9/2013-  
8/2015

- App development and maintenance
- Feature enhancements, bug fixes, repository / App Store management

IOS DEVELOPER, STEM INNOVATION, SALT LAKE CITY, UTAH

5/2013-  
9/2013

- IZON iOS App Architecture
- Objective-C main app, C and C++ core modules
- Asynchronous RESTful web-service interaction
- Local/remote viewing
- Live multiple-source data streams

INDEPENDENT & FREELANCE IOS / MAC OS X / WEB DEVELOPER, REMOTE

5/2008-  
Present

- Designed, developed and deployed numerous iPhone and Mac OS apps for clients and independently. Submitted dozens of new apps and updates to the App Store. Technologies utilized include Cocoa and Cocoa-touch, UIKit, CoreData, StoreKit, WebKit, SceneKit, QuartzCore, CoreVideo, AVFoundation, QTKit, GameKit, CoreVideo, OpenGL, OpenGL-ES, Cocos-2D, etc
- [OnCue](#) - A motion activated surveillance system for the iSight camera with remote viewing capability via the companion iOS app.
  - Full product development from concept to deployment on App Store.

GRAPHICS ENGINEER, K'NOWBE WORKS, LLC, WEST VALLEY, UTAH

4/2012-  
12/2012

- Main product development, C++, Windows API, MFC, COM, OpenGL, OSG & GLSL
- I improved their core graphics engine before using those improvements to develop visually striking fully interactive 3 dimensional engineering design tools. For instance, I built a rapid geodata contouring package. I also built intelligent pipe laying design tools which used proprietary equipment modeling software resulting in incredible realism.
- Agile development team using TFS as our revision control and a custom in house testing harness for unit tests and TDD.

WINDOWS DEVELOPER, FLEXSIM SIMULATION PRODUCTS, OREM, UTAH

11/2011-  
3/2012

- Main product development, C++ and custom engine scripting (FlexScript)
- I was on the main product development team, tasked with maintaining and upgrading the code using C++ as my primary language and using the Windows MFC API. I made a series of sweeping improvements to FlexSim's GUI, as well as changes to the core application functionality. Additionally, I created a suite of performance and unit tests for the code base.

WEB DEVELOPER, SOFTWARE DEVELOPMENT CENTER, UNIVERSITY OF UTAH 6/2010-9/2010

- Custom web portal development
- Using only JQuery, HTML, and CSS, I developed a dynamic user interface where clients could manage their accounts and design layouts for their advertising.

IOS DEVELOPER, OP CODE LLC, SALT LAKE CITY, UTAH 5/2008-8/2008

- [CarSplosion](#)
- I developed the visual gimmicks, including firebombs and explosions for this mini-game using Objective-C, Cocoa-touch, Cocos2D and chipmunk-physics.

RESEARCH ASSISTANT, UNIVERSITY OF STUTTGART 8/2007-1/2008  
INSTITUT FÜR VERFAHRENSTECHNIK UND DAMPFKESSELWESEN (INSTITUTE FOR PROCESS ENGINEERING AND POWER PLANT TECHNOLOGY)

- Student Research Exchange
- I worked with graduate students to progress their research with sulfur emissions. I did various lab work and worked with typical industrial lab equipment. At one point I was given a malfunctioning BET scanner, which I repaired within a week and used to analyze soot samples for the research team.

UNDERGRADUATE RESEARCH ASSISTANT, UNIVERSITY OF UTAH 10/2006-12/2008

- High temperature fixed bed mercury sequestration research on a non-carbonaceous substrate.
- I researched mercury sequestration on a novel non-carbonaceous mineral sorbent. My results showed promise for the material, and I was invited to present a poster at the undergraduate student competition in San Francisco at the AIChE convention in 2007.

## PROFESSIONAL PROJECTS

MAVENLINK 7/2017-Current

- Main Application- Professional services web application with Ruby on Rails
- Project planning, budgeting, invoicing, etc
- Integrations Platform with Elixir, Phoenix, and Ecto
- Syncing data between Mavenlink and external APIs (Jira, Quickbooks, etc)
- Kubernetes infrastructure

INSTASIZE 10/2015-7/2017

- A photo editing and resizing app
- Filters, Collages, Overlays, Backgrounds, etc
- In app purchases for filter packs

<p><b>LOON</b></p> <ul style="list-style-type: none"> <li>• A video feed based social network</li> <li>• NodeJS backend</li> </ul>	<p>10/2015- 12/2015</p>
<p><b>BRELLA</b></p> <ul style="list-style-type: none"> <li>• A social link sharing app</li> <li>• Built entirely in Swift, using Parse backend</li> </ul>	<p>12/2015- 3/2016</p>
<p><b>SELFIE FOR IPHONE APP</b></p> <ul style="list-style-type: none"> <li>• An innovative social networking app for face to face conversations</li> </ul>	<p>5/2014- 9/2015</p>
<p><b>ONCUE MAC OS X APP AND IOS COMPANION APP</b></p> <ul style="list-style-type: none"> <li>• Motion detection and remote video streaming</li> <li>• GLSL, GPUImage</li> </ul>	<p>10/2011- Current</p>
<p><b>OURPLAN IPAD APP</b></p> <ul style="list-style-type: none"> <li>• Construction scheduling application</li> <li>• Multiple Core Data stores, remote synchronization</li> <li>• Custom Calendar UI / UX design / implementation</li> </ul>	<p>9/2013- 4/2015</p>
<p><b>LACROSSE STATS</b></p> <ul style="list-style-type: none"> <li>• Sports statistics application</li> <li>• Core Data, Remote data retrieval, Premium features via In App Purchase</li> <li>• Custom UI / UX design / implementation</li> </ul>	<p>11/2013- 2/2014</p>
<p><b>IZON IPAD / IPHONE APP</b></p> <ul style="list-style-type: none"> <li>• Remote video streaming application</li> <li>• Core Data, P2P / Proxy Streaming</li> <li>• Custom UI / UX design / implementation</li> </ul>	<p>5/2013- 9/2013</p>

**OPEN SOURCE  
PROJECTS**

**BTCMONITOR**

- A simple OS X menubar application for showing current BTC prices
- [BTCMonitor on GitHub](#)

## BTC-WALLET-HASHCHECKER

- A lightweight OS X command line utility for attempting rapid password permutations on a given encrypted BTC wallet
- [BTC-wallet-hashchecker on GitHub](#)

## SKILLS

### SOFTWARE DEVELOPER

- Building Intuitive Software
- Object Oriented Design / Architecture
- Focused, Elegant, Self-Documenting Code
- Detailed UI, UX Design
- 3D Interactive Graphics - OpenGL, GLSL, CUDA
- Full Stack Developer - Back to Front Architectural Design and Development

### PROBLEM SOLVING

- Numerical Techniques
- Scientific Computing & Visualization
- CAGD, Image Processing
- Signal Processing
- Complexity Analysis
- Data Analysis / Visualization
- Geometric Design

### TECHNOLOGIES

- Objective-C, Swift, C, C++
- Elixir & Phoenix, Ruby on Rails
- Docker, Kubernetes
- HTML5, CSS, JS, PHP, Python
- MySQL, SQLite, PostgreSQL
- OpenGL, GLSL
- Cocoa, Cocoa-touch, Windows API, MFC, COM, bash, zsh, AppleScript, LATEX, Git

### OTHER

- Fluent in German
- 25 years of playing guitar

## TEACHING

## UNIVERSITY OF UTAH, SALT LAKE CITY, UTAH USA

- Graduate Instructor 2011
  - CS 1400 - Introduction to Computer Science
- Teaching Assistant
  - CS 3810 - Computer Organization
  - CS 2420 - Computer Science II 2010
  - CS 2420 - Computer Science II EAE (Engineering Arts and Entertainment Track)
  - CS 1410 - Computer Science I EAE (Engineering Arts and Entertainment Track) 2011

### RESEARCH

- Rational Surface Extraction in Toroidal Magnetic Field Simulations
- Exploration of the Material Point Method on Adaptively Refined Meshes with Hanging Nodes 2008
- High Temperature Fixed Bed Mercury Sequestration on a Non-Carbonaceous Substrate 2007

### HONORS

- Red Hanger Scholarship 2007
- Chemical Engineering John Zink Award 2006
- Chemical Engineering Departmental Full Tuition Scholarship 2001
- University Honors at Entrance Scholarship