



Justin Tolman

Software Engineer

justintolman.com
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/in/justintolman/
(208) 371-4507

Education Portfolio

Creative and detail-oriented software engineer with expertise in full-stack web development, cloud computing, mobile development, and IOT automation. A collaborative team player with excellent interpersonal communication skills, a passion for creating innovative solutions that enhance user experiences, and a future-focused approach to development based on modern standards. Excited about the intersection of technology and human expression, with interests in fields such as computational linguistics, virtual reality, artificial intelligence, 3D printing, and 3D design. Dedicated to delivering well-documented and thoroughly tested code to exceed expectations.

Experience

Full-Stack Developer (UX/UI Developer title) CallSource 5/2019 - 5/2023

- **WebComponents** - Converted existing web UI from Rails, jQuery, and React scripts into framework independent WebComponents in standard JavaScript for improved maintainability, and modularity.
- **Node.js** - Developed backend scripts using a variety of frameworks and plugins including Express, Fastify, Redis, etc. Provided both REST and Socket/RTC APIs, working with HTTP/1 and HTTP/2 protocols.
- **Browser Plugin** - Built a cross browser extension to make outbound calls to our telephony servers.
- **WebSockets** - Built a chat application using WebSockets
- **Mobile** - Developed a mobile app for iOS and Android with VOIP and RTC chat capabilities.
- **Test Driven Development** - Practiced test driven development using Cypress.io, Mocha, and Chai. Provided easily readable results in console, text file, and/or HTML format.
- **SQL** - Wrote Node.js modules to access our database for comparing expected values to UI results in automated testing.
- **Teamwork** - Worked with a geographically dispersed team using collaborative tools like, GitHub, Slack, and Jira.

Full-Stack/Mobile Developer justintolman.com (Freelance DBA) 11/2016 - 5/2019

- **Project Management** - Communicated directly with clients to determine the best technologies and workflow for their projects. Provided out of the box CMS, CRM, and e-commerce solutions (E.G. Wordpress, Drupal, etc.) or custom applications depending on timeline, budget, and customer preference. Also managed some internal projects.
- **Node.js** - Custom Full-Stack solutions working mostly with Express and/or Socket.io.
- **LAMP** - Deployed, styled, and configured out of the box solutions with occasional custom plugins including WordPress, Drupal, ZenCart, SugarCRM, and VTiger.
- **3D** - Worked with a variety of 3D design and rendering technologies including WebGL, Three.js, Unreal Engine, Blender, VR, 3D Scanning and 3D Printing.
- **Python and IOT** - Did several minor automation projects mostly using RaspberryPI and python. Also did a little bit of work with Arduino, and some with ESP8266 WiFi chipsets.

Full-Stack/Mobile Developer Automated Office Systems 6/2011 - 11/2016

- **Full Stack Web Development** - Used LAMP Stack, HTML, CSS, XML, JavaScript, and JQuery to develop websites.
- **CMS, CRM, E-commerce** - Most small business clients wanted setup, configuration, and customization of out of the box solutions. WordPress, Zen Cart, Drupal, VTiger CRM, Sugar CRM
- **Mobile Development** - Built native and/or web based custom applications for Android and iOS using Java, Objective C, and Cordova
- **HTML5** - Used new APIs for custom apps and interfaces as they were implemented, File API, Audio API, Video API, Canvas, WebGL, Three.js.
- **Mentoring** - Provided training and guidance for web development interns.

Technical Records Specialist II Idaho Department of Labor 8/2008 - 1/2011

- **Customer Service** - Worked with unemployment recipients and employers to resolve payment and account issues.

Full-Stack Developer Tribute Media 12/2007 - 7/2008

- **Full-Stack Web Development** - Syndication of product specs for copier industry clients. Built an SVG markup and rating app for resumes. LAMP Stack, Drupal, XML, SVG, RSS, HTML, CSS, SQL, and JavaScript.

Help Desk Analyst Electronic Data Systems 7/2007 - 12/2007

- **Technical Support/Customer Service** - Assisted customers on military systems resolve technical issues over the phone. Worked quickly and patiently, while actively listening and empathizing with customer concerns and frustrations.
- **Client Side Web Development** - Our small team integrated a REST and AJAX based UI with an existing internal knowledge center app.



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Military

Cryptographer/Linguist

US Army

10/2001 - 2/2003

Electronic Warfare Signal Intelligence Analyst/Linguist/Cryptographer

- **Cryptography** - Used cryptographic methods and statistical analysis to decrypt encoded messages and documents.
- **Translation** - Transpose and translate Arabic audio.

Education

BA in Multidisciplinary Studies

(Computational Linguistics)

Boise State University

Research:

- **Potential of Dedicated Language Processing Units in Computer Voice Interaction**

Author Researcher Presenter

Idaho Conference on Undergraduate Research

Boise State Undergraduate Research Conference

- **Kikongo Language Structures**

Co-researcher Co-presenter

Boise State Undergraduate Research Conference

- **Three.js Essentials by Jos Dirksen**

Technical Reviewer

Packt Publishing

Selected Coursework:

Computer Science:

- Cloud Computing
- Data Structure and Algorithms
- iOS Development
- Systems Programming

Linguistics:

- Field Methods in Linguistics
- Intro to Language Studies
- Language Typologies
- Morphology & Syntax
- Phonetics & Phonology
- Psycholinguistics

Extracurriculars:

- Creative Technologies Association
- Boise State Linguistics Association
- BSU Integrated Engineering Solutions Club

Projects:

- Built a small robot using 3D printed parts and a Raspberry Pi as the control unit. It had night vision, GPS, WiFi, BlueTooth, and solar charging; as well as expansion capabilities for cellular, ultrasonic range sensors, grasping arms, and other modules.
- Built a 3D printed chess board that unfolds into a functional computer running on a Raspberry Pi.
- Developed a virtual assistant program for giving presentations. It would advance the slides or trigger events based on keywords in the presentation, as well as giving subtle time notifications for pacing.
- Built a prototype for a cell phone based smart bike system.
- Worked on a team to develop a real time collaborative digital whiteboard on a scalable, location aware, distributed framework using Html5, NodeJS, Socket.IO, Redis, MySQL, Nginx (load balancer), Tomcat, Vagrant, and Puppet
- Participated in three iterations of the BSU Appathon. (24hr programming competition.)
- Entrepreneurial challenge presentations: Derivational Hydrographic Printing Bikesmart (smart bike system) Electronic Symbiosis

Specialization Certificates:

Advanced Machine Learning with TensorFlow on Google Cloud Platform

Computer Vision

Recommendation Systems

Production Machine Learning Systems

End-to-End Machine Learning

Coursera

Natural Language Processing

Machine Learning with TensorFlow on Google Cloud Platform

Machine Learning in Enterprise

Feature Engineering

How Google does Machine Learning

TensorFlow on Google Cloud

Coursera

Launching into Machine Learning

W3C HTML5 Part 2: Advanced Techniques for Designing HTML5 Apps

edX

W3C HTML5

edX



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Skills

Front-end Web Development

Accessibility	HTML5 Video	WebSockets
AJAX	HTML5 Audio API	WebRTC
CSS3	Microdata	WebVR
JQuery	Lit-HTML	XML/XSL
JSON	SVG	
HTML5	Three.js	
HTML5 File API	Web Components	
HTML5 Canvas	WebGL	

Back-end Web Development

AngularJS	Grunt.js	NGINX
Apache	Gulp.js	Rails
BitBucket	GCP	REST APIs
Chai	HTTP/2	React
Express	LAMP	Test Driven Dev.
Fastify	Mocha	Tomcat
Git	NodeJS	
GitHub	Jetty	

Mobile Dev.

Android
Cross-platform
iOS
React Native
Responsive Design

Cloud Computing

Docker
Distributed Systems
Kubernetes
Location Awareness
Maven
Proxy
Redis
Router Setup
Security
Virtualization

CMSs

Drupal
OwnCloud
Wordpress
Zencart

Prototyping

3D Printing
3D Scanning
Basic Circuit
Design
Basic Robotics

Databases

SQL
Redis
MongoDB
WebDB

General Programming

.NET	C++	Go	Ruby
Algorithms	C#	Java	Swift
APIs	Data Structures	JavaScript	Test Automation
ASP	Debugging	Kotlin	Version Control
Bash	Documentation	PHP	Visual Basic
C	Enterprise Dev.	Python	

Artificial Intelligence

Computer Vision
Neural Networks
Feature Engineering
Recommendation Systems
Machine Learning
Tensorflow
Natural Language Processing

Embedded Systems

Raspberry Pi
Arduino
ESP8266
ATtiny85

Technical Support

Compatibility Testing
Hardware Troubleshooting
Help Desk
Hardware Troubleshooting
Phone Support
Trouble Shooting

Multimedia

graphics, audio, video, 3D, VR

Audacity
Blender
Gimp
Sketchup
ImageMagick
Inkscape
Lightworks
OpenGL
OpenJSCAD
OpenSCAD
Photoshop
Solid Works
Unreal Engine
VLC

Linguistics

Elicitation
Psycholinguistics
IPA Transcription
Speech recognition
Morphology
Syntax
OCR
Text to speech
Phonetics
Typologies
Phonology

Human Languages

English native
Thai near-native
Isan Lao professional
Spanish conversational
Arabic basic

Professional Skills

Acuity
Creativity
Ingenuity
Problem solving
Presentations
Adaptability
Critical thinking
Innovation
Project Management
Teamwork
Attention to detail
Customer service
Imaging
Record keeping
Research
Conflict resolution
Empathy
Leadership
Supervisory
Communication
Initiative
Mentoring