

David Swanson

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Education

- BS, Computer Science, University of California Riverside, March 2019
 - Tau Sigma Honor Society for GPA > 3.4
- AS, Electronics Technology, Riverside Community College, 2011
- OSHA 30-Hour General Industry Safety Certificate

Professional Experience

Freelance Software Developer (2016 - Present)

Ongoing development of an interactive web application for sale to schedule-based businesses. Technologies include native PHP, MySQL, Javascript, JQuery, HTML, CSS, Bootstrap

- Requirements for application template:
 - Public page with image slideshow, bio and availability for service providers, 'Open Now' indicator, drop-down calendar for client self-scheduling
 - Administrator page with screens to set regular workdays and special days for service providers, display appointments, set/edit appointments, upload/arrange images, edit client/company info. Provide search box for edit screens
 - Security:
 1. Password protection and admin levels for users
 2. Database connection away from HTML directory
 3. Limit data display for public page; hide past dates, client information
 4. Validation/sanitization of all form inputs
 - User Experience:
 1. Mobile-first
 2. Single page load; use AJAX for state changes
- Live demo of application template (ask me for visitor password for admin page):
 - http://daveswanson.info/biz_bin/public.php

- Sample client: Dr. Ben Moshrefi, a chiropractor in Riverside:
 - Dr. Moshrefi already had a website, but hired me to add patient self-scheduling. The provider of the site was not open to hosting additional features. I secured a separate host and got the provider to link to it
 - Additional requirements:
 1. Match colors and layout for seamless integration of new features with the existing website
 2. Separate handlers for new and existing patients.
 3. Support multiple stacking of appointments with same start time
- This history is relevant because it demonstrates full-stack architecture, designing to spec, interpersonal skills, entrepreneurship

Owner, LJL Recordings (1995-Present)

Technology/Sound Recording company based in Riverside, CA, whose unique volume-priced service was marketed to unsigned musicians. Many clients broke into the mainstream, such as Panic at the Disco, As I Lay Dying, Rufio and Bless the Fall. At its peak, the company ran four locations in two states, employed 30 people, and attracted clients from as far as Canada and Central America.

- Lowered expenses by configuring off-the-shelf computers for high bandwidth
 - Dedicated HDD partitions for swap files (dynamic memory)
 - Dedicated partitions for OS, with backup OS image for quick crash recovery
 - Removable hard drives for large file transport (before flash drives and gigabit ethernet)
- Created protocols for securing valuable data
 - Enforced storage locations, mandatory per-shift backups, naming conventions
- Emphasized science in an industry known for hearsay
 - Invented shaped white-noise templates for automated sound manipulation, cutting final mastering time in half
- Personally trained all new employees to maintain quality of work
 - Music, wave physics, electronics, digital techniques
- Helped clients plan realistic project scope and budget
- Analyzed business requirements to chart best company course

- Wrote tutorials, contracts and company manual to standardize processes
- Developed company website and added dynamic online schedule display in 2014, vastly simplifying the booking process
 - <http://www.lovejuicelabs.com/>
 - http://www.daveswanson.info/LJL/view_customer.php
- This history is relevant because it demonstrates entrepreneurship, business management, technical communication, mentoring, and responses to IT challenges

Intern, OmniPlatform (2012–2014)

Software company started in 1999 by Drew Jorgenson and Dr. Mark Lehr. Originally based in Los Angeles and Riverside CA, the company moved to Irvine in 2014. Dr. Lehr is also a professor at Riverside Community College(RCC), where I was attending. He invited me to intern at Omniplatform, and remains a professional reference today

- Learned web development, LAMP and REST
- Sat in on planning meetings and developed code to specifications. Contributed PHP code to Omniplatform's project, the College Online Senate Election. This was an interactive web application patterned after Survey Monkey
- Developed the entire application independently as a personal project. My application was demonstrated to the PHP class at RCC, even though I was not in the class
- This history is relevant because it demonstrates inter-personal skills, fast learning and adaptability to new technologies

Respiratory therapist (1986–1994)

A licensed profession requiring one year of training and a state board exam

- Maximized mission-critical equipment function for hospital intensive care units
- Responded to all Code Blue calls to perform CPR
- Documented all patient care (medical charts are legal documents)
- Contributing to patient care at over 30 hospitals, through on-staff jobs and temp agencies
- Left the field in good standing
- This history is relevant because it demonstrates competence in a fast-paced, life-and-death work environment

Project Experience and Personal Research

Search Engine/Web Scraper (2019), UC Riverside

URL scraper, web-content scraper, inverted index builder and search engine

- Language: Python with Elasticsearch
- Code: <https://github.com/CS172-UCR/finalproject-hookedonpythonics>

MIDI Record/Echo/Playback Device (2018), UC Riverside

Implements a standard communication protocol on a small embedded chip (ATMega1284). Uses interrupts to handle MIDI messages. Stores incoming messages by timestamp. Outputs stored messages while echoing incoming messages to shared output

- Language: C
- Code: <https://github.com/sugarvillela/ATMega1284>
- Video demo: <https://www.youtube.com/watch?v=B882YZxPmp0&feature=youtu.be>
- Tutorial I wrote: www.instructables.com/id/Midi-RecordPlayOverdub-With-5-Pin-Connections

Statistics and Set Tools (2018), Personal Research

Quartiles, outliers, distributions, Naive Bayes etc.

- Language: Javascript
- Code: <https://github.com/sugarvillela/Statistics>
- Live demo: <http://daveswanson.info/stat/>

Wave Steganographer (2014), Riverside Community College

Replaces each least-significant bit in a 'host' file with a streamed bit from a 'parasite' file

- Language: C++
- Code: https://github.com/sugarvillela/Wave_Steganographer

Semantic Analyzer (2013), Personal Research

Rule-based Natural Language analyzer. Uses word lists and sentence structure to determine parts of speech, word forms and other hints

- Language: PHP
- Live demo: http://daveswanson.info/semantic_analyzer/user_interface.php

Assessments

- Problem Solving — Expert
 - https://share.indeedassessments.com/share_assignment/itjvllz5rxqd-gjz
- Critical Thinking — Highly Proficient
 - https://share.indeedassessments.com/share_assignment/1cwezyfvt-plk6z
- Data Analysis — Highly Proficient
 - https://share.indeedassessments.com/share_assignment/i-ickg0vnbxqnx9g
- Verbal Communication — Highly Proficient
 - https://share.indeedassessments.com/share_assignment/quf9f9eduo1vdnne

Summary

- Re-entry graduate with previous work experience in a technical field
- Skills
 - Application programming for web, desktop and embedded systems
 - Computers, operating systems and technical troubleshooting
 - Business management and process optimization
 - Electronics and digital audio
- Languages/Paradigms
 - C, C++, Java, Python, PHP, MySQL, Javascript, QT, OpenMP, ColdFusion, C#
 - Object-oriented, functional
 - Model-View-Control (MVC), Web Services, SOAP, REST
 - Agile, Scrum
- Soft skills
 - Communication, conflict resolution
 - Exceptional literacy
 - Self-starter
 - Active learner
- Willing to relocate
 - California, Nevada or Arizona