

Jim Bumgardner

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OBJECTIVE

To do interesting work with treasured colleagues. So far, so good!

SELECTED SKILLS and RANDOM FACTS

I have deep experience in full-stack, application and front-end development, microcontrollers, social networks, computer graphics and computer music.

While I use AI quite frequently in my software dev work these days, I don't love it in business correspondence, and I did not use it to produce the prose in this resumé, as I hope is readily apparent!

A personal focus of interest is creative technology of all kinds - specifically: Computer graphics, digital audio, computer music, data-visualization, and physical computing in the service of the arts and entertainment.

I'm quite proficient in Python 2/3, Javascript, C/C++, HTML5 / CSSW, PHP 8, C#, Java, Perl 5, Processing, Postscript and have had passing contact with many other languages. Frameworks I've used include Eleventy, Node.js, Django / Flask, Smarties.

Tools I use regularly include Claude, Codex, OpenRouter, Ffmpeg, ImageMagick.

I have worked with Maya/MEL, Open Frameworks, DMX, MIDI, Max/MSP, Ableton, RFID and many other technologies.

I currently hold 7 US patents and 9 European patents.

My software-generated star battle puzzles are published Monday through Saturday in *The New York Times*.

You can see my open source repos at github.com/jbum/

WORK HISTORY

Senior Full Stack Engineer — Office of Data & Innovation, State of California, 2020 – present

ODI helps State departments meet Californians where they are. We use data, human-centered design and technology to create services that are easier for everyone to use.

I joined the team when it was responsible for the main COVID-19 response website for the State of California. My initial focus was on performant information visualization and data pipelines. After a few months, I became the technical lead for this site, and remained so until late 2022.

I am currently responsible for engineering at engaged.california.ca.gov. As technical lead, I have to respond quickly to the ever-changing requirements for this high-traffic and high-visibility site.

I also providing engineering for several other websites for ODI.

WORK HISTORY (continued)

Senior Principal Software Engineer — Walt Disney Imagineering, 2010 – 2020

Over ten years I produced a wide variety of front-end and production software for Disney, using HTML5/Canvas, Javascript, Unity, Arduino and Python/Django/Flask.

From 2018-2020, I was west coast technical lead on the ill-fated Epcot Play Pavilion, a \$150 million interactive attraction being developed by WDI at the site of the former Wonders of Life pavilion. In 2020, due to the Pandemic, this project was indefinitely postponed.

In 2018 I worked on mobile programming on Play Disney Parks, a set of mobile games. Most of this work was done in Javascript using the Phaser library.

From 2014-2017, I worked for Imagineering R&D, on alternate-reality games, Arduino LED & sensor control software, Maya/MEL automation, Entertainment show control for guest-interaction kiosks, production pipelines, music arranging and production, MIDI playback / control software.

Author / Puzzle Constructor — Krazydad, 2005 – present

My self-published website, ***krazydad.com***, has published over two million puzzles since 2005. These are computer-generated logic puzzles produced using software that I write. The site is still quite active and my puzzle activities have expanded in recent years.

I have published several puzzle books with Puzzlewright Press (a major publisher), and Tiny Lobster (my own imprint). I supply puzzles to *The New York Times*, *Radio Times*, *Business Week*, *Games Magazine*, and other publications.

Lead Technologist - Topspin Media, 2008 – 2009

I left Yahoo! Music to join this pioneering music 2.0 startup, run by former Y! Music head Ian Rogers. My focus was on technology to produce business intelligence in the music industry.

Senior Front End Developer - Yahoo! Music, 2006 – 2008

I worked with a great team of front-end developers on Y! Music's home pages. In my last year, I specialized in off-network apps for social networks like Facebook.

Principal Software Engineer, Aptiv Digital, 1998 – 2006

Aptiv, a pioneering software provider for Interactive Television, is now part of Tivo / XPeri. I worked on Interactive TV / Settop box application design and coding. Several of my patents, pertaining to the interactive tv space, were awarded during these years. I am stunned you are still reading this.

Part Time Instructor, 1995 – present

I have taught classes at Art Center Pasadena, UCLA Extension, and Crash Space.

EDUCATION

California Institute of the Arts — 1980 – 1984

I studied electro/acoustic music, audio engineering and video production.

SELECTED BOOKS & PAPERS

"A Panoply of Puzzles", Tiny Lobster, 2022 (one of over 50 puzzle books)

"Emergent Orange", Bridges Proceedings, 2014

"Variations of the Componium", Bridges Proceedings, 2014

"Kircher's Mechanical Composer: A Software Implementation", Bridges Proceedings, 2009

"The Whitney Music Box", Bridges Proceedings, 2009

"If you are still reading this", you are to be congratulated! Almost done...

"Information Theory and Art", Mung Being Magazine

"Puzzle Building and the Creative Mind", Mung Being Magazine

SELECTED PATENTS

Multi-vantage point light-field picture element display, #10616547, April 7, 2020

Search Engine for a Video Recorder, #10459974, October 29, 2019

Video recorder having user-extended time slots, #9848161, December 19, 2017

Resource sharing system for set-top boxes, #20140040969, February 6, 2014

Tuner sharing video-recording system architecture, #8116611, February 14, 2012

Conflict manager for a video recorder, # 20080273856, November 6, 2008