

# Matthew Shotton

matthewshotton88@gmail.com  
(510) 356-8393  
Berkeley, CA

linkedin.com/in/MatthewShotton  
twitter.com/MatthewShotton  
github.com/MatthewShotton  
sicksad.com

## SUMMARY

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I'm a full-stack creative technologist passionate about innovative media experiences, specializing in video and the web. I have extensive experience prototyping novel technology in the R&D department of a world-leading media organization, as well as in numerous personal and freelance projects. I have published papers, exhibited at museums and galleries and been invited to speak internationally for industry and academia. I'm driven to use my technical skills to empower creative teams.

## SKILLS

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**Web:** Node.js, ES6, HTML/CSS, WebGL, THREE.js WebAudioAPI, React, Python, ReSTful API design, Game dev  
**Video processing:** DASH, IPTV, WebRTC, WebSockets, H264, OpenCV, TensorFlow, NumPy  
**Innovation:** UX research, user trials, rapid prototyping, multidisciplinary agile teamwork, open-source  
**DevOps:** Ansible, Vagrant, Docker, NoSQL  
**Media production:** Camera operation, shoot planning, video and audio editing, broadcast engineering  
**Physical prototyping:** 3D-modelling and printing, PCB design, CAD/CAM, Arduino/Raspberry Pi dev

## EXPERIENCE

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### Freelance Creative Technologist (ongoing)

- Full-stack web development including browser-based video and audio experiments
- Web, android and VR game development
- Built an acoustic robot band that played midi-controlled algorithmically generated audio
- Designed and built a 3D printer, a CNC machine, a bamboo bike and a 2-person boat

### Project Technologist at BBC R&D (Aug 2016 – Jan 2018)

- Developed a successful open-source library for web video manipulation ([github.com/bbc/VideoContext](https://github.com/bbc/VideoContext))
- Prototyped an Artificially Intelligent production system, using Machine Learning to simulate camera and director decisions

### Research Technologist at BBC R&D (Jan 2013 – Aug 2016)

- Developed and trialled a range of novel web-based prototypes demonstrating live chroma-keying, rendering, video sequencing and compositing, and audio manipulation via the WebAudioAPI

### Trainee Technologist at BBC R&D (July 2009 – Dec 2012)

- Built interactive data visualization installations exhibited at museums and galleries
- Built a physical prototype using hardware blink detection and the Doctor Who Weeping Angels

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**EDUCATION:** BSc (Hons) Electronic Engineering University of Manchester (2006 – 2009)

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**INTERESTS:** Cycling, climbing, flying quadcopters, making, recently started learning Swing dancing!