Justin B. **Christensen**

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Education

Massachusetts Institute of Technology *Cambridge, MA*

MASTER OF SCIENCE, MEDIA ARTS AND SCIENCES *September 2019 - May 2021*

- Overall GPA: 5.0/5.0
- Course Work: Advanced Interaction Design, The Nature of Mathematical Modeling, Negotiation Analysis, Science Fiction-Inspired Envisioneering and Futurecrafting, Optical Imaging Devices and Systems

Brigham Young University *Provo, UT*

BACHELOR OF SCIENCE, ELECTRICAL ENGINEERING *August 2015 - April 2019*

- Overall GPA: 3.83/4.00, *Heritage* and *New Century* Academic Scholarships
- Minor in Japanese and Mathematics
- Course Work: Embedded System Programming, Data Structures and Algorithms, Discrete Structures, Control Systems, Signals and Systems, Holography, Optical Engineering, EM Radiation and Propagation, Semiconductor Devices, Integrated Circuit Development Lab, Electronic Circuit Design

Skills

Programming	C++, C, Processing, Javascript, HTML, Python, MATLAB, PERL, LaTeX
Software	CAD, Unity, Photoshop, Illustrator, Microsoft Office
Language	English: native, Japanese: advanced

Experience

MIT Media Lab *Cambridge, MA*

RESEARCH ASSISTANT *September 2019 - Present*

- Exploring ways to improve and combine software, optical equipment, and other hardware to create more immersive and interactive experiences.
- Designing and fabricating small opto-mechanical systems using simple structural, flexural, and actuating building blocks.

Brigham Young University – Electro-Holography Lab *Provo, UT*

RESEARCH ASSISTANT *September 2016 - April 2019*

- Designed, fabricated and tested light-bending modulators to produce holographic images in a holographic video monitor.
- Developed skills in optics (lasers, refraction and holography), clean room fabrication (photo-lithography, deposition and etching), parametric device design using MATLAB, and rapid prototyping of 3D printed parts to combine whole optical system.
- Co-authored paper based on research and pioneered iterative design leading to becoming co-inventor of a patent-pending device.

BYU Electrical and Computer Engineering Department *Provo, UT*

TEACHING ASSISTANT *September 2017 - April 2019*

- Assisted students in designing state machines and implementing fundamental embedded C programming techniques to design a variety of touch-screen games and a laser tag system.
- Dove deeper in the SDK coding environment used for the students' projects to better help debug code and hardware/software communication bugs.

Intel Corporation *Hillsboro, OR*

BACKEND DESIGN ENGINEERING INTERN *May 2018 - August 2018*

- Tweaked and tested different design layouts using TCL and Unix shell scripting of owned SoC subsystem partition to improve device timing.
- Wrote database parsing script in PERL to query and display project status (XML and HTML) to team members.

Coding Projects

- **1D Interface (work in progress):** creating a 1D game in Processing and custom human-computer interface to control it using electronics and 3D printed and laser cut parts; focusing on hardware/software sketching/prototyping, as well as proper interaction and interface design.
- **Laser Tag:** designed and wired transmitter and receiver boards for the system, interfaced with the processor and wrote band-pass filter signal processing code in MATLAB, and used embedded C programming to connect all hardware and software components into a fun and reliable game.
- **Whirlybird:** experimented with different types of control system designs using Python and ROS to control a whirlybird's (two-bladed drone mounted to a pole) position in terms of roll, pitch, and yaw.