Nathan Villicaña-Shaw

Lecturer, Creative Technologist, Installation Artist

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I am a lecturer, tutor, creative technologist, and installation artist that believes in the power of project based education and empowerment through exploration. I enjoy collaborating with driven, dedicated peers, and students, to create innovative solutions to problems that matter.

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| PROFESSIONAL EXPERIENCE |
| LECTURER California College of the Arts 2017-present   * I am a lecturer for the Interaction Design program at the San Francisco campus of California College of the Arts. * I teach an upper division class focused on designing tangible user interfaces, creating smart spaces, and how to work with sensors and actuators with the Arduino prototyping platform. |
| GRADUATE ASSISTANT California Institute of the Arts 2014-2017   * Maintains ensemble of 10 mechatronic instruments, a 3D printer, a CNC router, and a CNC mill for the music technology department. * Lectures on mechatronic electrical engineering, interface design, digital fabrication, and PCB design. * Tutor for upper-division classes on physical computing, interface design, electrical engineering, and mechatronic music composition. * Leads team of upper division BFA and MFA students to maintain the Electronics Lab, Machine Lab, Masters Room and Supplies Vault at CalArts.   JUNIOR RESEARCH ENGINEER Kadenze Inc. 2015-2017   * Lead developer for the auto-grader on the *Programming Max: Structuring Interactive Software for Digital Artists* class. Worked with Stanford university professors to develop coursework for the class and built software tools to algorithmically grade students on their code. * Assistant developer and current maintainer for auto-grader on *Sound Synthesis Using Reaktor* which is in its fourth successful run. * Assists with building and labeling data-sets for machine learning algorithms to assist with various company ventures. * Co-developed internal data visualization tools for company employees to track user metrics and demographics. |

EDUCATION

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| **MASTER OF FINE ART California Institute of the Arts Music Technology**   * Studied under mentorship of Dr. Ajay Kapur and Dr. Owen Vallis. * Research topics include mechatronic musical instrument design, mechatronic music performance and human-circuit interaction. * President and founder of the Hardware Hacking Club and the Circuit Bending Club.   **BACHELOR OF FINE ART California Institute of the Arts Music Technology**   * Studies encompassed object-oriented programming, electrical engineering, interface design, concert production, sound synthesis, music performance, machine learning as well as music composition, theory, skills, and history. * Minor in Digital Arts.  SKILLS **Lecturing**, C, ChucK, **Python**, Processing, Pure Data, Max MSP, C++, JavaScript, **EAGLE CAD**, LT SPICE , Ableton Live, Reaktor, Unity, Tutoring, Interaction Design, User Interfaces, Video Editing, Rapid Prototyping, **Raspberry Pi**, Network Design, Physical Computing, Digital Fabrication, Data Visualization, Sound Synthesis, **Mechatronics**, Audio Mixing, Concert Production, **Interface Design**, Music Composition, **Arduino**, Machine Learning |