

# PIERCE STEGMAN

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## EDUCATION

### **University of Alabama**

B.S. in Computer Science, GPA: 4.00  
Tuscaloosa, AL | Expected 2019

### **Thomas Jefferson High School for Science and Technology (TJHSST)**

Computer Science Program  
Alexandria, VA | Class of 2016

## SKILLS

JavaScript • HTML5 • CSS • Python •  
Java • C/C++ • PHP • SQL • Node.js •  
Git • Android • Qt • Unity

## RESEARCH

Brain-Computer Interfaces • Signal  
Processing • Machine Learning

## LINKS

GitHub  
<https://github.com/pwstegman>

Website  
<https://pwstegman.me>

Google Scholar  
[https://scholar.google.com/citations?user=Jo\\_U04AAAAJ](https://scholar.google.com/citations?user=Jo_U04AAAAJ)

## AWARDS AND HONORS

First place at CrimsonHacks, 2017  
Built a configurable MIDI keyboard using  
the Leap Motion IR sensor  
University of Alabama

Winner of Hack the North, 2014  
Built a virtual reality bowling game. One  
of 10 winning hacks out of 1000  
competitors  
University of Waterloo

First place at HackMIT, 2014 in the  
Education category  
Built a progress report tracking web app  
Massachusetts Institute of Technology

Eagle Scout in the Boy Scouts of  
America (BSA) scouting program

## EXPERIENCE

### **University of Alabama, Human-Technology Interaction Lab** | Research Assistant

August 2017 – Present  
Designing a JavaScript library for brain-computer interfaces, implementing signal processing, machine learning, and data management methods

### **Nolij Consulting** | Full Stack Developer

April 2015 – Present  
Implemented and maintains the current website  
Automates employee workflows with scripts powered by Node.js

### **Nolij Consulting – GSA Federal Contract** | Developer and Technical Writer

May 2018 – August 2018  
Wrote technical documentation for GSA systems  
Updated the online documentation system (reduced page load time by 50%)

### **University of Alabama, Laboratory for Immersive Communication** | Research Assistant

May 2017 – August 2017  
Researched signal processing techniques for high efficiency 360-degree video encoding

## PROJECTS

### **Bci.js** | Sole Developer

August 2017 - Present  
Bci.js is a library for EEG-based brain-computer interface (BCI) design. It allows for the creation of BCI enabled web apps or Node.js applications, containing methods for signal processing, machine learning, and data management. (<https://github.com/pwstegman/bcijs>)

### **SoundAir** | Lead Developer

March 2017  
Developed a virtual piano using infrared detection of a user's hand position. Allows user to place 3"x5" index cards on a table and play them as piano keys. (<https://github.com/pwstegman/SoundAir>)

### **MyoThreeArm** | Codeveloper

August 2015 – May 2016  
Developed a wave categorization algorithm to interpret muscle movements from an EMG, categorizing unique gestures ranging from a closed fist to letters in sign language. Research was conducted at the TJHSST Computer Systems Lab. (<https://github.com/StegmanKauferLabs/MyoThreeArm>)

### **TOS-AI** | Lead Developer

December 2014  
Created an AI which converts long legal documents into shorter bulleted summaries. Allows for quick review of a service's terms and conditions. (<https://github.com/pwstegman/TOS-AI>)

## PUBLICATIONS

P. Stegman, C. Crawford, and J. Gray, "WebBCI: An Electroencephalography Toolkit Built on Modern Web Technologies," in Augmented Cognition: Intelligent Technologies, 2018, pp. 212–221.