

# Jiayue Bai

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## EDUCATION

Northwestern University, McCormick College of Engineering  
Master of Science in Computer Engineering

Evanston, IL

Expected: December, 2021

- Game Design & Development, IoT, Human-Computer Interaction, Computer Vision

Boston University, College of Engineering  
Bachelor of Science in Computer Engineering

Boston, MA

May 2020

- Dean's List from Fall 2017 – Spring 2018 and Fall 2019 – Spring 2020
- Electric Circuit, Probability and Statistics, Signals and Systems, Computer Organization, Computer Networking, Operating Systems, Client-Server Software Systems Design, Cybersecurity, Smart and Connected Systems, Cyber-Physical Systems, Machine Learning,

## SKILLS

Programming Languages: Java, C/C++, Python, MATLAB, Verilog, HTML, JavaScript, CSS, ASP.NET, C#, RISC-V ISA, Swift, React Native

Operating Systems: Microsoft Windows, Mac OS X, Linux

Development Tools: Visual Studio, React Native, Expo, GitHub, Unity

Spoken Language: Mandarin Chinese, English

## ENGINEERING PROJECTS

### **Boston University**

Boston, MA

#### **CIRapp (Cluttered Image Rating) Development**

September 2019 – May 2020

- Winner of 2019 BU Electrical Computer Engineering Shark Tank
- Design and build a HIPPA-compliant, cross-platform mobile app that will be used as a clinical tool for patients with psychological problems, such as hoarding disorders, to automatically generate CIR scores through a deep learning algorithm
- Developed a separate app that will be used by clinicians and housing professionals for data collection to train the algorithm for better accuracy

#### **Autonomous-Driving Crawler**

September 2019 – December 2019

- Leader of the project (team of three)
- Designed and built a crawler that allows both autonomous and remote manual driving mode using ES32 microcontroller and Raspberry Pi
- The crawler is able to drive autonomously through a course consist of straight and 90-degree turns
- A node server and a web client are hosted on the Raspberry Pi where the user can drive the crawler manually and also see live streaming from the webcam mounted on the crawler

#### **Physical Masquerade Attack Detection**

September 2019 – December 2019

- Implemented an attack-proof path finding algorithm with an iRobot along with alarm generation functionality using Pixy2 camera and Arduino Uno

#### **Instant Hot Shower**

January 2018 – May 2018

- Designed, built and tested an instant hot shower that allowed the internal recirculation of cold water controlled by an Arduino board and additional electric circuits

#### **Digital Lock Project**

April 2018 – May 2018

- Designed and programmed a digital lock system with Verilog and FPGA that allowed users to lock and unlock a system with a password, and also change the password once unlocked

## PROFESSIONAL EXPERIENCE

### **Undergraduate Research Assistant**

June 2019 – September 2019

#### **Graphene Lab of Professor Scott Bunch**

Boston University

- Fabricated graphene on silicon plates through the traditional sticky tape method
- Experimented with various feature factors such as temperature and time and reported effects on fabrication process

## **Jiayue Bai**

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### **Research Assistant**

#### **The Office of Congressman Sam Farr**

February 2015 – March 2015  
Capitol Hill, Washington, D.C.

- Conducted tours of the capitol building for constituents, attended meetings on behalf of staff members, wrote meeting and research reports, and completed other secretarial duties as needed
- Managed all front desk functions including responding to emails, answering phone calls, and distributing mail

### **VOLUNTEER EXPERIENCES**

Special Olympics, Washington D.C., September 2013 to June 2014

Tysons Corner Animal Hospital, Vienna, VA, February 2015 to March 2015