

# Jacob Shin

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## Education

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### Temple University

2020 - 2024

- Bachelor of Science, Computer Science • College of Science and Technology (CST) • Honors Program
- President's Scholar: Covers Full-Tuition (\$20,000/yr) • CST Science Scholar
- Courses: Introduction to Academic Computer Science, Honors Calculus I, Mathematical Concepts in Computing I Honors

### Pennsbury High School (4.65 Weighted GPA)

2016 - 2020

- Academic Excellence in Computer Science – Xerox Award for Innovation and Information Technology

## Experience

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### Princeton Plasma Physics Laboratory (PPPL) Intern (Fall 2019 - Winter 2019)

- Learned to design an electronic circuit for a device called a Langmuir probe, an instrument used to measure properties like density and temperature of plasmas

## Projects

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### TI-Authenticator: 2FA With a Calculator (C, HMAC, SHA1, OTP)

- Provides rolling passcodes similar to Google Authenticator except on a graphing calculator
- Implements One-Time Password (OTP) algorithms for the TI-84+ CE graphing calculator based on RFC 4226 (HOTP) and RFC 6238 (TOTP)

### Calculator Controlled RC Boat (C++, TI-BASIC, Arduino)

- Allows a graphing calculator to wirelessly control a boat
- Utilizes an Arduino and RF wireless modules with a C++ library called ArTICL to interface with a TI-84+ graphing calculator

### College Rejection Simulator (HTML, CSS, Javascript, Bootstrap, Netlify)

- Created a college rejection simulator with fake decision letters and college login portals to help high school seniors mentally prepare for their rejection
- Received 20,000 views within the first few days of the release
- Utilized my previous work from <https://github.com/jshin313/preparetoberejected>

### Wireless LED Marching Band Lights (C++, Arduino, Group Project)

- Created multi-coloured, music-synchronized lights for the drums and other instruments
- Redesigned an existing prototype by using more cost effective circuitry in order to make the project feasible and fundable by the school

## Skills

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**Programming Languages:** C, C++, Python, Javascript, x86 ASM

**Markup Languages:** L<sup>A</sup>T<sub>E</sub>X, Markdown, HTML, CSS

**Other:** Linux, Bash, Git/Github, Tmux, (Neo)vim, Arduino

## Awards/Activities

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**1st Place:** castorsCTF20 Computer Security Competition

**4th Place:** RACTF 2020 Computer Security Competition

**Member:** Temple Association for Computing Machinery (ACM)