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Joshua Storm Becker

http://becker.codes/

Education

Computer Science — **Princeton University** — **Fall 2015 – May 2019**

Bachelor of Science in Engineering

- Overall GPA: 3.59 of 4.0 | Departmental GPA: 3.71 of 4.0

Selected Coursework

- Operating Systems, Networks, Data Structures & Algorithms, Neural Networks Applications & Theory

Employment

Software Development Intern — **Optiver** — **Summer 2017, Summer 2018**

Automated Trading Systems | C++, Java | https://www.optiver.com/

- Implemented and coordinated firmwide protocol upgrades for sending orders to stock and options exchanges.
- Developed functionality within firm's inhouse simulated trading environment to seamlessly switch between real market and generated data sources for simulated trading courses used to onboard new traders.

Research Assistant — **Snyderphonics** — **2016 – 2018 Academic Years**

Electronic Instrument Design & Development | C, JavaScript | http://www.snyderphonics.com/

- Developed firmware for electronic instrument control interface.
- Refactored web art installations for asynchronous loading, dropping page preload times from over a minute to seconds.

Software Development Intern — **Analytical Graphics Inc.** — **Summer 2016**

glTF Pipeline | JavaScript, Node.js | https://www.npmjs.com/package/gltf-pipeline/

- Implemented 3D-model cache optimization stage, increasing frame rates by up to 100% in vertex-bound cases.
- Created command-line interface for client-end use of the 3D model optimization pipeline.
- Implemented pipeline stage to generate normals for input models that lacked proper vertex normals.

STEM Intern — **National Security Agency** — **Summer 2015**

- Implemented cryptographic methods in Cryptol (Haskell based DSL) for formal verification.

Selected Projects

uPdo — **https://rmw2.github.io/uPdo/** — **Spring 2018**

- A web interface and Web Audio implementation of the visual programming language Pure Data.
- Included refactoring an abandoned project to implement the Pure Data backend in JavaScript.
- Stack: JavaScript, React | Source: https://github.com/rmw2/uPdo

Meetable — **http://becker.codes/meetable/** — **Spring 2017**

- A web application to simplify scheduling meetings.
- Integrates with users' Google Calendars to streamline time selection to only when users are available.
- Stack: Node.js, MongoDB, Bootstrap | Source: https://github.com/JoshuaStorm/meetable

WebSynth — **http://becker.codes/WebSynth/** — **Summer 2016**

- A dynamic subtractive synthesizer built into a single webpage.
- Stack: JavaScript, p5.js | Source: https://github.com/JoshuaStorm/WebSynth

Skills

- Most experienced with Java, C, and JavaScript.
- Some experience with C++, Python, Go, and Swift.
- Proficient with Git version control.