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Columbia University, School of Engineering and Applied Science

Fall 2020 – Spring 2022

Bachelor of Science Major: **Computer Science**

(Overall GPA: **3.79**)

Colgate University

Fall 2017 – Spring 2020

Bachelor of Arts Major: **Physics**; Minors: **Mathematics, Jewish Studies** (Overall GPA: **3.51**)

Coursework: UI Design, Human Computer Interaction Seminar, Advanced Web Design, Computer Vision, Computer Animation, Computer Networks, C++ Programming, C Programming, Natural Language Processing, Artificial Intelligence, Computational Robotics, Fundamental Computer Systems, Electronics, Computational Mathematics, Number Theory, Probability and Stats, Linear Algebra

Academic Experience

Columbia University, COMS W4170 User Interface Design, *Teaching Assistant*

Fall 2021

- Served as mentor to 16 students, providing guidance and feedback as they worked on an individual design project using the **User Centered Design** process.
- Guided students as they performed **Contextual Inquiries, Storyboarding, Rapid Prototyping, and Study Design**.
- Assisted students in learning design software such as **Basalmiq** and **Figma**, as well as web technologies such as **HTML/CSS/JavaScript**.
- Answered student questions and provided advice at office hours and online and graded bi-weekly homework assignments.

Columbia University, (HCI) Computer-Enabled Abilities Laboratory, *Research Assistant*

Fall 2020 – Summer 2021

- Conducted research with Prof. Brian Smith on techniques to enable **blind accessibility in video games**.
- Helped implement a new blind-enabled interaction method in **Unity** based on joystick-controlled ray casting.
- **Designed and performed numerous user studies** with visually impaired gamers. Performed analysis and participated in written presentation of results.
- Second author on two resulting **publications**, one presented at UIST and the other currently under review at CHI.

Tsinghua University, X-Studio HCI Lab, *Research Intern*

Fall 2016 – Summer 2017, Winter 2017

- Completed, debugged, and finished major component of an interactive storybook written in **Unity** that connects to a custom capacitive device able to provide haptic/textural feedback within a 3-day deadline. Learnt to use Microsoft Foundation Classes, **Unity** inter-process communication, and **C++** inter-process communication. Successful completion within deadline and demonstration in front of exhibition visitors.
- Collaborated with graduate students to build **interactive device** that tracks input on a surface using temperature changes and a game based on the device. Implemented particle system, parts of input detection and game logic, and **Arduino** code for haptic tools. Used **C++** OpenFrameworks library, **XBee wireless communication**, and various sensors for the haptic tools.
- Participated in numerous other projects. Edited 10+ papers in support of publication efforts and assisted the design of user studies.

Software Development Experience

BorderX Lab, *Front-end Development Intern*

Summer 2019

- Built internal software from scratch using **React** in collaboration with a backend programmer and a **PM**. System now used by entire sales team to easily send digital coupons to all customers via methods such as SMS, push notifications, email, etc., saving time and **significantly improving efficiency** over previous manual methods of doing so.
- Added features and user interface improvements to other internal systems written in **Angular and React**. Improvements allowed significant time savings for sales team and IT team.
- Gained experience in interfacing with back-end systems, using **continuous deployment**, and writing pipeline scripts.

Hulu, *Front-end Development Intern*

Summer 2018

- Participated in an **agile team** and supported efforts to upgrade and maintain the front-end systems of Hulu.com.
- Gained better understanding of industry concepts such as **MVC, server architecture, VOD, REST API, CDN, load distribution, web routing, cookies etc.**, as well as corporate processes such as **Product Owners, QC, code review**, etc., and aspects of Agile development such as **Scrum and Jira**.
- Migrated around a thousand test cases to a different **testing framework** and introduced snapshot testing to certain tests. Also wrote original test cases for a microservice written in **Go** and increased code coverage to 100% for multiple files.
- Fixed bug in eslint-import-resolver-babel-module, an open source **NPM package with 143,000+ weekly downloads**.
- Participated in Hulu Beijing Office **Hackathon** in a team of three and won “**Coolest Hackathon Project**” with RMB 2,000 prize out of 22 competing teams. Project was completed in 2 days and consisted of a “**Katamari**” ball able to pick up elements of any website and graphically display them as if picked up by a 3-dimensional ball. **Wrote particle system and other physics effects based on knowledge from Physics courses**.

Publications

Towards a Generalized Acoustic Minimap for Visually Impaired Gamers. (UIST '21) 2nd Author

IRelics: Designing a Tangible Interaction Platform for the Popularization of Field Archaeology. (TEI '19) 2nd Author