Brandon R. Canfield

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Education

Yale University New Haven, CT Expected May 2021

B.A. in Computing and the Arts; GPA: 3.81 (Computer Science GPA: 4.00)

Select Coursework: Hardware/Software Interface, Intensive Algorithms, Human-Computer Interaction, Systems Programming, Parallel Programming, Sound Synthesis, Data Structures, Linear Algebra and Vector Calculus, Algorithmic Composition, Scales of Design, Intro Graphic Design, Music Technology

Work Experience

Carnegie Mellon School of Computer Science Pittsburgh, PA May 2019 – Aug 2019

Research Assistant (Institute for Software Research and Human Computer Interaction Institute)

- Designed and implemented system for preserving user privacy while sharing GUI-based programming-by-demonstration scripts in the Brad A. Myers Lab
- Built Node.js and PostgresQL server to receive hashed data from phones
- Added (privacy-preserving) script sharing functionality to existing Android/Java codebase

Yale Computer Science Dept. New Haven, CT Sep 2018 – Dec 2018; Aug 2019 – present

Undergraduate Learning Assistant: Parallel Programming Techniques, Systems Programming

- Served as teaching assistant for 22-student undergraduate/graduate parallel programming course (Fall 2018) and 100-student undergraduate systems programming course (Fall 2019)
- Hosted weekly office hours to answer student questions about conceptual parallel programming, OpenMP, MPI, and CUDA (Fall 2018) and biweekly office hours to answer student questions about C, systems programming and Unix-based systems (Fall 2019)

Pearl Research, Inc. New Haven, CT Feb 2018 – Feb 2019

Software Engineer; Co-Founder

- Communicated with design/business team to move biometrics solution from concept to prototype
- Collaboratively built PCI-compliant AWS-based biometric authentication platform with Python, Flask, and MySQL, extending previously local biometrics solutions to the cloud
- Built three domain-specific Android prototype front-ends applying the biometrics platform to retail, research, and building security

Extracurriculars

Yale Open Music Initiative New Haven, CT Jan 2018 – Present

Student Director

- Created various experimental music controllers to perform improvisatory electronic music
- Coordinated and taught workshops on music technology (both high- and low-level)
- Conducted academic research on digital signal processing programming by example

Palatine Robotics Palatine, IL Aug 2016 – May 2017

Weapons Team Lead

- Led 3-person weapon team to design and manufacture single-tooth drum weapon for combat robot

Awards

Creative and Performing Arts Award New Haven, CT Sep 2019

Best Poster: Human-Computer Interaction New Haven, CT May 2019

YHack 2018 Top 5 New Haven, CT Dec 2018