Bridget Tan

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA
Master of Science in Electrical and Computer Engineering — Expected in Dec 2020
Bachelor of Science in Electrical and Computer Engineering — May 2019
Minor in Audio Engineering
Cumulative GPA: 3.31/4.00

SKILLS

Programming: C, MATLAB, Python, Arduino, Raspberry Pi, Git, C#, Java, Assembly (ARM and x86), SystemVerilog
Creative: Microsoft Office, G Suite, Unity3D, Adobe Photoshop, Illustrator, Flash, Audacity, Pro Tools, Soundvision
Operating Systems: Windows, Mac, Linux
Spoken Languages: English, Mandarin Chinese, Spanish, Japanese

COURSEWORK

18-493: Electroacoustics
18-781: Speech Recognition and Understanding
18-492: Speech Processing
18-491: Fundamentals of Signal Processing
18-290: Signals and Systems
57-338: Sound Editing and Mastering
18-793: Image and Video Processing
15-622: Introduction to Computer Music
18-578: Mechatronic Design
18-370: Fundamentals of Control
18-349: Introduction to Embedded Systems
15-213: Introduction to Computer Systems

RESEARCH EXPERIENCE

Infant Language and Learning Lab, Carnegie Mellon University — May 2017 – Jul 2019
Research Programmer

- Programmed a pipeline for analyzing correlation in NIRS data using the AnalyzIR Toolbox in MATLAB
- Designed and programmed video games that promote cognitive engagement and physical activity to enhance cognitive control and school readiness skills in prekindergarten children
- Adapted a computer application to assess attention in infants for investigating early markers of attentional dysfunction and potentially diagnosing ADHD in infancy

PROJECTS

Window Washing Robot, 18-578 capstone project — Spring 2019

- Collaborated with a team of 5 to develop an autonomous robot that adheres to and cleans windows
- Helped in development of control, locomotion, adhesion, sensing, and cleaning subsystems
- Assembled electronic components and circuitry of the robot

Text-to-Speech Talking Clock, 18-492 course project — Fall 2018

- Built a text-to-speech system using the Festival Speech Synthesis system and FestVox voice building tools
- Developed a voice database for a talking clock synthesizer using my own voice

Pizza Ordering Dialog System, 18-492 course project — Fall 2018

- Developed a multi-turn pizza ordering system as an Alexa Skill
- Used ngrok and Flask-Ask to develop servers and dialog for interfacing with Alexa

Embedded Real-Time Kernel, 18-349 course project — Spring 2018

- Implemented a real-time Linux kernel module on a Raspberry Pi with a partner
- Wrote device drivers using GPIO to interface with rotary encoders, DC motors, and PID speed controller for controlling wheels on two Raspberry Pi's via ethernet

"Keep Talking and Nobody Explodes" Physical Game, Build18 Engineering Festival — Jan 2018

- Collaborated with a team of 5 to develop a physical version of the game "Keep Talking and Nobody Explodes"
- Developed an Arduino program with button inputs and RGB LCD, speaker, and LED outputs

LEADERSHIP

AB Tech, Carnegie Mellon University — Sept 2015 – Present
Co-*Head of Tech, Executive Board Member, Student Technician*

- Directed officers and an organization of about 30 students to provide professional entertainment production
- Worked professionally with event organizers to plan and run hundreds of successful events every school year
- Led recruitment and training sessions that effectively taught members technical skills
- Executed sound, lighting, rigging, and production and stage management for the university's community

Awareness of Roots in Chinese Culture, Carnegie Mellon University — Sept 2015 – Present
Executive Board Member, Technical Coordinator

- Coordinated with a team of 30 members to plan and implement regular Chinese cultural awareness events
- Implemented new promotional campaigns via social media and email that successfully reached new audiences
- Oversaw technical logistics for an annual cultural play involving various dances and performances