NADA HUSSEIN

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https://github.com/nadah09

EDUCATION

Massachusetts Institute of Technology   *Cambridge, MA*

Master of Engineering in Electrical Engineering and Computer Science   *Sept 2020 – Sept 2021*
Bachelor of Science in Electrical Engineering and Computer Science   *Sept 2016 – June 2020*

- **Master's Thesis:** Machine Audition Tools for Real-Time Music Processing and Accompaniment in Scratch
- **Concentration:** Artificial Intelligence
- **Relevant Coursework:** Discrete-Time Signal Processing; Computer Vision; Underactuated Robotics; Signals, Systems, and Inference; Intelligent Multimodal User Interfaces; Robotics: Science and Systems; Feedback Control Systems; Algorithms; Software Construction

RELEVANT PROJECTS

Master's Thesis, Personal Robots Group, MIT Media Lab   *Cambridge, MA*

Research Assistant   *Sept 2020 – Sept 2021*

- Designed, implemented, and piloted Scratch extensions for middle school machine audition curriculum
- Implemented digital signal processing and machine learning backend in JavaScript for Scratch such that users can create, analyze, and generate accompaniments for music
- Designed and implemented text rendering and dynamic plotting Scratch capabilities for visualizing waveforms, sheet music, Fourier transforms, and spectrograms based on user's music creation input

WORK EXPERIENCE

Whisper AI   *San Francisco, CA*

Audio Machine Learning Engineer   *September 2021 – Present*

- Implementing digital signal processing algorithms for smart hearing aids
- Improving audio machine learning models to modify hearing aid amplification based on environment, user preference, and power consumption considerations

MIT Signal Processing (6.003)   *Cambridge, MA*

Teaching Assistant   *Sept 2020 – Jan 2021*

- Staffed office hours assisting with signal processing labs and problem sets

Amazon Robotics   *Seattle, WA*

Software Development Engineer Intern, Virtual Systems   *May 2020 – August 2020*

- Created high-fidelity conveyance system simulations in Unity with scene-capture functionality
- Interfaced with Docker and AWS to provide automated on-demand simulation launches

Toyota-CSAIL Joint Research Center   *Cambridge, MA*

Undergraduate Researcher   *Sept 2019 – Dec 2019*

- Implemented Simultaneous Localization and Mapping (SLAM) solutions on testbed racecars and full-size autonomous cars
- Improved SLAM to optimize for robustness and scalability in long-term mapping

Audible - Amazon   *Cambridge, MA*

Software Development Engineer Intern   *June 2019 – Aug 2019*

- Developed full-stack feature in Audible Android app that allows audio recording and playback
- Consulted with users and UX designers to design, implement, and test feature's user interface
- Developed back-end microservice using AWS Lambda, API Gateway, and S3 that interfaced with Android app to enable cloud storage and reception of audio recordings

TECHNICAL SKILLS

Programming: Python, Java, ROS, JavaScript, C++, C#, Scala, MATLAB, Assembly
Software: AWS, Arduino, Android Studio, Autodesk Inventor/Fusion 360, Solidworks