Jonathan Loungani

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EDUCATION

Carnegie Mellon University (CMU), Pittsburgh, PA   **Expected May 2022**
Bachelor of Science in Computer Science
Music Technology Minor
Selected Coursework: Principles of Software Construction, Artificial Intelligence, Probability & Computing, Computational Biology, Multitrack Recording, Editing & Mastering, Twisted Signals, Robotics for Creative Practice

RESEARCH & WORK EXPERIENCE

Research Assistant, CMU CS Academy   **May 2019 – Present**
- Lead professional development sessions for over 500 high school teachers on computer science pedagogy, Python programming, and use of the CMU CS Academy platform.
- Wrote, produced, and edited educational videos with >30k views, as well as coding exercises, notes, and teacher handbooks.
- Implemented display in React to allow teachers to view students' exercise completion times and compare to global averages.

Instructor for Introduction to Esoteric Programming Languages, CMU   **May 2020 – Present**
- Deliver hour-long, weekly lectures to 25 students per semester on the intersection of computer science and artistic expression.
- Developed esolab.org using MERN stack to administer auto-graded coding challenges on languages taught in class.

Teaching Assistant for 17-214 Principles of Software Construction, CMU   **August 2020 – May 2021**
- Assisted students with coursework on Java programming, use of Gradle, Git, and Travis CI, and software design patterns.
- Graded assignments, answered Piazza questions, and held recitations, office hours, and review sessions.

PROJECTS

The Slumbering Cuttlefish (Robotics, Course Project)   **November 2021**
- Built and showcased a suitcase-sized, themed robotic experience featuring a mechanized cuttlefish that sprays unwary onlookers when approached.
- Constructed using CNC laser cutting and controlled using Arduino.

Imitative Algorithmic Melody Generator (Music Technology, Course Project)   **December 2020**
- Created a melody generator in Max/MSP which uses a variable-order Markov chain to determine pitches based on user-provided MIDI files.

ConvoCoach – TartanHacks 2019 Finalist (Hackathon)   **February 2019**
- Prototyped an application designed to help children with autism learn how to interact in social scenarios as an accessible alternative to therapy. Worked with a team of four using Google Natural Language Processing APIs.
- Placed as a finalist and won $1000 to be donated to a select charity.

LEADERSHIP & ACTIVITIES

Social Media Logistics Manager for CMU Hillel   **August 2021 – Present**
- Created a system using Trello & Butler to organize content creation and manage communication between the social media team, student executive board, and full-time Hillel staff.
- Grew Instagram from 50 to >250 followers in one month through increased posting and engagement.

Secretary for Alpha Epsilon Pi Fraternity   **November 2019 – November 2021**
- Improved chapter communication by recording and archiving detailed minutes of every meeting.
- Rewrote the organization's Constitution and streamlined the process for inscribing Constitutional amendments.
- Led successful virtual and in-person recruitment initiatives which doubled membership following the COVID-19 pandemic.

TECHNICAL SKILLS

Programming languages—Java, Python, JavaScript, C and C++, C# (Unity), SML, and Chef.
Full-stack web development—HTML, CSS, MongoDB, Express, React, and Node.
Music technology—ProTools, Audacity, MuseScore, and Max/MSP, in-studio sound engineering.