Spencer Ng

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EDUCATION

The University of Chicago Chicago, IL
BA Computer Science, Minor in Theater & Performance Studies Expected June 2023
GPA: 3.98 | Activities: University Theater, Magic (performing arts), Science Olympiad
Coursework: Intro to Computer Systems, Discrete Math, Intro to Human-Computer Interaction (Fall 2020)

EXPERIENCE

Argonne National Laboratory Lemont, IL
Research Intern June 2020 - Sep. 2020
- Created deep learning models with YOLO and PyTorch to extract environment features from images
- Designed a Dockerized Python pipeline to run inference on sensor feeds at the edge and determine the best data to sample for bandwidth-aware retraining of ML models with improved performance

University of Chicago IT Services Chicago, IL
Network Architecture Developer Oct. 2019 - Present
- Automating University network switch setup and maintenance by writing Python and Perl scripts
- Created a Python tool to lookup campus buildings, determine their real-time device statuses via ping, and backup/sync building and device data between Netbox, Box, and local server storage

University of Chicago Laboratory Schools Chicago, IL
Metcalf Intern Apr. 2020 - June 2020
- Created dashboard visualizations of Schoology, Seesaw, Google Meet, and Zoom data with Tableau
- Analyzed online learning trends and compared platform usage across various courses and departments

New Jersey Institute of Technology Newark, NJ
Neural Engineering Research Intern June 2019 - Sep. 2019
- Developed a Unity game with C# to diagnose patients for hearing disabilities
- Created real-time algorithms to simulate pitch shifting and sound localization

SKILLS

Languages:	*Proficient*: Python, C, Java, C++ *Familiar*: JavaScript, R, C#, HTML, CSS, Haskell
Libraries:	Android, PyTorch, Pandas, Google Cloud, Qt, Docker, OpenCV, Unity, .NET, REST
Tools:	Git/GitHub, JSON, Gradle, GitLab/Travis CI, Unix/Linux, Tableau, Adobe Creative Suite

TEAM PROJECTS & ACTIVITIES

Hackathons Philadelphia, PA & Remote
PennApps Campus Ambassador Sep. 2016 - Present
- Trained a custom NLP model with 90% accuracy to summarize terms in online privacy policies and wrote Cloud AI Prediction API backend for AutoTOS (PennApps XXI Best Use of Google Cloud)
- Built Synaptic Gestures (PennApps XVII Top 30 Hack of ~1.2k attendees), an Electron app to increase user productivity by building custom gestures for Synaptic touchpads with AutoHotkey

University Theater Chicago, IL
Co-Social Chair & Stage Manager Oct. 2019 - Present
- Schedule rehearsals, manage stage props, and create inclusive rehearsal rooms for companies of 25+
- Plan social events for an organization with 100+ members and support 30+ annual performances

Raider Robotix North Brunswick, NJ
Strategy & Scouting Team Lead Sep. 2015 - June 2019
- Developed an Android app and a JavaFX desktop client for real-time collection and statistical analysis of robotics match data, incorporating a novel match prediction model with 85% accuracy
- Implemented Travis CI Java pipeline, led programming team, and performed code reviews

Laundry Manager and Optimizer Philadelphia, PA & Edison, NJ
github.com/spencerng/lmao Sep. 2018 - June 2019
- Built an Android prototype (PennApps XVIII Top 30 Hack) to recognize laundry tag symbols on clothing using custom machine learning models trained with Google's AutoML Vision API
- Designed a touchscreen IoT hamper using Raspberry Pi, 3D-printed parts, and PyQt to detect hamper contents and optimize laundry loads and energy use based on deposited clothes