Nicholas Huang

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EDUCATION

University of Michigan, College of Engineering **May 2021**

Bachelor of Science, Engineering - Computer Science | Ross School of Business - Business Minor

- Cumulative GPA: 3.83/4.00
- Coursework: Data Structures and Algorithms, Web Systems, Machine Learning, Conversational AI Design
- Honors: National Merit Finalist Scholarship Winner, ABC News Best and Brightest Award, National AP Scholar
- Activities: Computer Science Instructional Aide, Alpha Kappa Psi Business Fraternity, Nexecon Consulting Group

SKILLS

- Languages: Python, Javascript, C++, Java, Swift, MATLAB, HTML, CSS
- Libraries and Frameworks: PyTorch, Keras, Tensorflow, Spark, React, Node.js

EXPERIENCE

Palantir Technologies *Forward Deployed Software Engineer Intern* **Summer 2020**

- Constructed a module powered by typescript functions and backed by Spark SQL dataframes, and spear-headed the iterative user-adoption process, leading to a streamlined customer workflow and significant cost reductions
- Initiated the periodic synchronization of time series data and wrote subsequent Spark SQL transforms that converted the data into a human-readable format, before displaying it in a user-responsive process flow diagram
- Implemented a new product managament interface that was adopted team-wide, presented product updates to clients on a weekly basis, and led user-engagement sessions showcasing our tool functionalities to new customers

ROAHM Lab *Machine Learning Research Assistant* **2019 - Present**

- Developed a GAN model to generate novel images of terrain through image-to-image translation on small input datasets by utilizing patch-based loss functions and evaluating the input images at multiple receptive field sizes
- Tuned a progressively growing GAN (PG-GAN) by pretraining a discriminator on CIFAR-10 inputs before further training with terrain image datasets, allowing for the consistent generation of terrain images (ex. icy paths)
- Trained a PG-GAN on the CamVid dataset to generate custom image segmentation masks, which were then used as inputs to the GauGAN to create dash-cam like images for the testing of autonomous vehicle decision making

Nexecon Consulting Group *Project Manager, Analyst* **2019 – Present**

- Built a software tool for Fortune 100 airline to calculate optimal gate-flight configurations by analyzing two years of previous flight data, allowing gate managers to assess risk percentages for every flight and mitigate delays
- Managed a team of analysts aiding an early-stage start-up in their market research and user acquisition efforts, market sizing 13 potential user verticals, conducting 30 user interviews, and beta-testing their web application
- Partnered with analysts at a top US furniture retailer to optimize their warehouse distribution by writing a script to calculate the profit margins of the current and promising distribution flows, resulting in lower shipping cost

Ford Motor Company (Connected Vehicle Platforms) *Software Engineer Intern* **Summer 2019**

- Built and distributed a full-stack iOS app which implements OAuth2 security and is able to start, stop, lock, and unlock authorized Ford vehicles remotely, allowing for the efficient validation of parallel vehicle use cases
- Created an Android app which incorporates Google Auth2 libraries to protect client information and utilizes the HTTPUrlConnection class to fetch JSON data, ensuring security by storing all data locally with SharedPreferences

PROJECTS

AInterview (React / Python Flask / SpeechRecognition Toolkit) **2020**

- Built an AI mock interview assistant which parses an inputed resume, asks personalized questions, records responses with the SpeechRecognition toolkit, and scores responses with metrics, such as tf-idf against the resume

Backpak (React / Python Flask / MongoDB) **2020**

- Wrote the entire back-end architecture of an exam-distribution interface for virtual teaching, creating an API that allows students and professors to register accounts, create and sign up for classes, and write and grade exams

QUEENS Non-Profit iOS Application (Swift) **2019 - Present**

- Managed a team of four computer science students in the full-stack development of an iOS application for QUEENS, a non-profit empowerment organization, leading instructional sessions in iOS development

Alpha Kappa Psi Brotherhood Database (React / Python Flask / MongoDB) **2019**

- Constructed an API for handling POST requests and stylized a database webpage that served as an anonymous survey system with access level management provided through an OAuth layer for member access