Michael Kwan

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EDUCATION

M.Sc. in Electrical and Computer Engineering, Concentration in AI/ML Systems   August 2021 - May 2022
Carnegie Mellon University - Pittsburgh, Pennsylvania

B.S. in Computer Engineering   August 2018 - May 2021
University of Illinois at Urbana-Champaign - Champaign, Illinois

WORK EXPERIENCE

Baseball Operations Research and Development Fellow at PITTSBURGH PIRATES   August 2022 - Present
Pittsburgh, Pennsylvania
- Developed computer vision and deep learning pipelines to gain player insights.

Software Engineer Intern at META   May 2022 - August 2022
Menlo Park, California
- Created infrastructure to show creation prompts for Facebook Reels, driving increased user retention rates.
- Built out metric alert system for more effective on-call rotations.

Software Engineer Intern at JUMP TRADING   June 2021 - August 2021
Chicago, Illinois
- Revamped C++ simulation library to support new compilers, and reduced build times significantly.
- Refactored benchmark tests to support new features, and created solutions that achieved memory and latency decreases.
- Developed advanced logging features to help teams implement simulations faster and debug more efficiently.

Software Development Engineer Intern at MICROSOFT   May 2020 - August 2020
Bellevue, Washington
- Created machine learning solutions for distributed systems in C++ and Python, reducing mean latency times by up to 3 %.
- Migrated application counters to centralized platform, decreasing I/O bandwidth and system load significantly.

Deep Learning Undergraduate Researcher at IMAGE FORMATION AND PROCESSING GROUP   November 2019 - June 2021
Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign
- Led research on repairing old and tattered images with deep learning, developing novel methods for restoration.
- Created deep convolutional neural networks with Pytorch in order to upsample, denoise, and restore images.
- Developed novel photograph impurity detection system to remove large creases in a photo via image segmentation.

Software Engineering / Machine Learning Intern at CRITEO   May 2019 - August 2019
Palo Alto, California
- Used Hadoop and Spark MLLib to identify potential new customers, boosting mobile app install rates by over 10%. **Best Intern Project Award**
- Engineered features used to predict user impressions to app installs, increasing impression conversions by 5%.
- Developed operations dashboard allowing sales employees to interact with internal data cleaning pipelines, streamlining task workflows.

Software Engineering Intern at MANAGE   May 2018 - August 2018
Mountain View, California
- Served relevant advertisements to hundreds of millions of users with a machine learning pipeline using scikit-learn and Keras.
- Developed infrastructure to monitor and alert for thousands of advertising campaigns on multiple metrics for underperformance.
- Screened and moderated millions of mobile advertisements for inappropriate content through automated platform written in Python.

SOFTWARE PROJECTS

Under Display Camera Workshop   Paper Link
- Published paper on image restoration of photos taken underneath OLED phone screens, analyzing several state-of-the-art approaches.
- Organized, led, and reviewed submissions for ECCV 2020 workshop, sponsored by Microsoft Research

Matchbox: Find a Match For Dinner
- Developed web application for users to create personalized profiles and match with others with similar qualities and food interests.

SOFTWARE EXPERIENCE

Programming Languages	Python, C++, C, Java, PHP, Go, JavaScript, Scala, SQL, R
Tools	Git, Hadoop, AWS, GCP, Spark