Ryan Po

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EDUCATION

CARNEGIE MELLON UNIVERSITY
BS in Computer Science
Graphics (Concentration)
Grad. May 2022 | Pittsburgh, PA
Cum. GPA: 3.95 / 4.0

ST. PAUL'S CO-EDUCATIONAL COLLEGE
Grad. May 2018| Hong Kong

COURSEWORK

Computer Vision
Computer Graphics
Computational Photography
Machine Learning
Experimental Physics (Lab)
Introduction to Computer Systems
Fundamentals of Math in CS (TA)
Parallel and Sequential Data Structures and Algorithms
Functional Programming
Probability and Statistics
Practical Data Science

SKILLS

PROGRAMMING
2+ Years Experience
Python • C • SML • Matlab • LaTeX • MySQL • HTML
1+ Years Experience
C# • C++ • CSS • Assembly
Familiar:
JS • iOS

LANGUAGES
Fluent in English, Mandarin and Cantonese

INTERESTS

Computational Imaging
Rendering
Learning Based Vision
Physics Based Vision

RESEARCH PROJECTS

HIGH FLUX TOF IMAGING WITH SPADS Research Assistant
May 2020 - Present | Pittsburgh, PA
- Working with **Prof. Ioannis Gkioulekas** and **Adithya Pediredla** on improving accuracy of time-of-flight imaging using Singular Photon Avalanche Diodes
- Wrote simulation software for SPAD behaviour under varying background flux
- Developed applications of EOMs and subsequent image formation models for recovering transients leading to >50% increase in performance without known priors on depth
- Developed adaptive models for recovering transient given a prior distribution on depth achieving up to 500% increase in performance

EXPERIENCE

RIOT GAMES | Data Engineer Intern
Summer 2020 | Santa Monica, CA
- Intern on the Aggregations team working on the Mult-Game Data Warehouse, handling data from each of Riot Games' title games with 10M+ daily active users
- Led and shipped brand new module for tracking and alerting anomalies in incoming data each day
- Wrote, reviewed and debugged code in Python and SQL as part of expanding the Data Warehouse to accommodate new in-game content

CARNEGIE MELLON UNIVERSITY | 15-151 Fundamentals in Mathematics for CS Teaching Assistant
Fall 2019 | Pittsburgh, PA
- Prepared course material covering discrete mathematics for CS and Math majors
- Led bi-weekly recitations, held tutoring sessions for students, answered online questions and participated in grading of assignments/exams

DELOITTE | Software Developer Intern
Summer 2019 | Hong Kong
- Part of the AI team, led and produced a proof of concept for Jockey Tracking interfaces for identifying jockeys during races
- Recognition and tracking algorithm trained based on YOLOv3, achieves >95% accuracy with under 1 hour of training footage

PROJECTS

JOCKEY RECOGNITION | Python/C/C++/Keras/OpenCV
- Custom trained neural network as part of POC for Deloitte, algorithm refined and improved after internship ended
- Video Demo: **ryanpo.com/projects/jockey-detection/**
- Code Base: **github.com/ryanpo/jockey-recognition**

SONG GENRE ANALYSIS | Python
- Analysis on song genre classification using a multitude of machine learning techniques such as random forest classifiers and unsupervised clustering techniques
- Built N-gram song lyrics generator based on data collected from Spotify API
- **Notebook Link**