Tzu-Chun Hsieh

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Full-stack programmer in Python, C, and C++ with experience of making video games and constructing Deep Learning algorithms for data science projects. A professional in online advertising and business analytics.

EDUCATION

Duke University, Durham, NC **Aug 2019-May 2021**
Master in Interdisciplinary Data Science *GPA: 3.9/4.0*
- Coursework: Algorithms, Principles of Machine Learning, Data Management Systems

National Taiwan University (NTU), Taipei, Taiwan **Jun 2014**
Bachelor of Arts in Economics (ranked top 10% in class) *GPA: 3.95/4.30*

PROJECTS

Tower Defense **May 2019**
- Conceptualized and developed tower defense game using object-oriented programming principles such as class inheritance and polymorphism.
- Designed graphical user interface (GUI) of the game.

Vehicle Routing (Capstone Project) **Aug 2020-May 2021**
- Built and implemented reinforcement learning models to simulated data to minimize the distance of the routes that pass all the nodes exactly once.
- Containerized and executed the models on Duke Compute Cluster(slurm) using bash scripts.

Identify solar panels from satellite images **March 2020**
- Implemented histogram of oriented gradients (HOG) to detect edges on satellite images and applied Support Vector Machine (SVM) and Convolutional Neural Network (CNN) to categorize data.
- Achieved 97% accuracy and F-1 score:0.92 with the CNN model.

SKILLS & CERTIFICATIONS

Programming: Python (Pytorch, Tensorflow, Scikit-learn), C, C++, R, JavaScript, HTML5, CSS3, SQL
Technical skill: Data Structure and Algorithm, Machine Learning, Deep Learning, Reinforcement Learning, Natural Language Processing, A/B Testing
Cloud technology: Spark, Hadoop
Languages: Mandarin (native); English (fluent); Japanese (fluent)

WORK EXPERIENCE

Rhodes Information Initiative, Duke University, Durham, NC **Jun-July 2020**
Intern
- Implemented dimension reduction (PCA, t-SNE, factor analysis), and unsupervised learning (K-means, autoencoder) to analyze the similarity in children's taste using food preference survey data.
- Built and visualized an interactive food recommendation system that gives suggestions to parents of children who have ARFID, an eating disorder characterized by highly selective eating habits, the best food to try next to extend the variety of food children accept.

CyberAgent, Inc. Taiwan Branch, Taipei, Taiwan **Oct 2016—Jun 2018**
Project Manager (Department of Advertising)
- Led a team of 5 to develop and execute digital marketing strategies including market analysis, advertising media planning, creative ideas, advertisement budget control, and future prospect.
- Optimized ads performance of Google Ads, Bing Ads, Yahoo Gemini by analyzing ad performance data and A/B Testing biding, target audience, creative ideas, landing pages, etc.
- Raised the profit of online ad campaigns by up to 50% and improved sales by up to 100% for 10+ companies in various industries.
- Awarded by Oath Inc. with YAHOO Monthly Best Native Ads in August 2017.