Tsai-Chen Hsieh

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EDUCATION

MS in Computer Science Sep. 2022 – Dec. 2023
Columbia University *New York, USA*
- Relevant topics: Algorithms, Databases, Cloud Computing and Big Data (AWS), Competitive Programming

BS in Management Information Systems (GPA: 3.94 / 4.3) Sep. 2017 – Jan. 2022
National Chengchi University *Taipei, Taiwan*
- Academic excellence award (top 2%) for the spring semester of 2020
- Relevant topics: Data Structures, Data Science (Machine Learning), Operating Systems, Object-oriented Programming

TECHNICAL SKILLS

- **Programming**: Python, C++, R, Java, HTML, CSS, SQL, PHP, JavaScript
- **Frameworks/Libraries:** Flask, OpenCV, Scikit-learn, Pandas, NumPy, Shiny Apps, Paho, Highcharts, TensorFlow
- **Tools:** Git/Gitlab, MySQL, Postman, PuTTY, Linux (Ubuntu Server), Docker, Power BI, Jekyll
- **Certification**: Microsoft Azure Fundamentals (May 2020)

WORK EXPERIENCE

Cybersecurity Software Engineering Intern Aug. 2021 – Feb. 2022
BlockChain Security *Taipei, Taiwan*
- Developed a system that finds similarities between media content to detect plagiarism, provided both web interface and API for the user to interact via **Python, Flask, HTML, MySQL, OpenCV, and Linux (Ubuntu Server)**
- Achieved 95% accuracy by applying ORB algorithm and average hashing for finding altered images
- Implemented audio fingerprinting techniques for music comparison, reached 90% accuracy in identifying modified songs, and utilized multithreading to improve efficiency up to 65%

Data Analysis Engineering Intern Jan. 2021 – Jun. 2021
Ret[AI]ling Data Enterprise *Taipei, Taiwan*
- Utilized Random Forest and transaction data in the millions to predict individual customer's growth rate for precision marketing, grouped potentially valuable consumers with up to 74% accuracy via **Python, Pandas, and Scikit-learn**
- Built a customer data platform as an official company product for the retailing industry, contributed reactive visualizations and automated data preprocessing pipelines via **Python, Pandas, and Power BI**

Office Administrative Intern Jul. 2019 – Jun. 2020
Microsoft Taiwan *Taipei, Taiwan*
- Assisted law enforcement in requesting digital evidence regarding criminal cases
- Led 30 people as vice general coordinator of the 2020 Microsoft Office Tour, reached 138,890 accounts on Facebook, attracted 1,777 applicants for the event, and had a 4.7/5 satisfaction rate among 450 participants

PROJECTS

Personal Website/Blog (tsai00150.github.io/Tsai-Hsieh-Blog) Jun. 2022 – Jul. 2022
- Built website with a customized theme via **Jekyll, HTML, and CSS**

SmartFarm – Agriculture Management Platform Jul. 2019 – Jan. 2021
- Designed a system to monitor farmland data; built real-time IoT data receivers, visualized charts, reactive planting templates, and abnormal data detection via **Python, PHP, JavaScript, Paho, and Highcharts**
- Facilitated overall project progress and communicated specifications with the sponsor company as team leader
- Won 2nd place in the 25th International ICT Innovative Services Awards, Industry-Academia Cooperation group, a nationwide event with 892 participating teams at the time of attendance
- Served as part of two plans subsidized by the Ministry of Economic Affairs in Taiwan

League of Legends – Analysis and Prediction (bit.ly/3ym7pQw) Dec. 2020 – Jan. 2021
- Analyzed winning factors and predicted match outcomes using Riot developer API on the game *League of Legends*; developed interactive visuals on results and deployed them to the web via **R and Shiny Apps**
- Voted the best project out of 12 groups in Data Science class