

Kevin (Jai-Hua) Yen

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<https://jaihuayen.github.io/homeweb/>

EDUCATION

National Taiwan University

Taipei, Taiwan

Master of Science in Biometry

Sep. 2017 - Aug. 2019

Thesis Title: Richness Estimation with the Presence of Species Identity Error

Related Courses: Mathematical Statistics (PhD level), Nonparametric Statistics, Applied Multivariate Statistical Methods, Applied Linear Statistical Models, Statistical Computing, Experimental Design

National Tsing Hua University

Hsinchu, Taiwan

Bachelor of Science in Quantitative Finance

Sep. 2013 - Jun. 2017

Related Courses: Calculus, Advanced Calculus, Linear Algebra, Discrete Mathematics, Engineering Mathematics, Probability Theory, Statistics, Mathematical Statistics, Statistical Data Analysis, Time Series Analysis (Graduate level), Business Analytics Using Statistical Modeling (Graduate level)

SKILLS

- **Programming:** Python, R, SQL, Golang, Matlab, SAS, C, C++, Linux, Docker, Git, LaTeX

RESEARCH EXPERIENCE

QNAP (world's second-largest network attached storage (NAS) company)

Taipei, Taiwan

AI Software Engineer

Feb. 2022 - Present

- Trained a ResNet50 image classification model with a 70% F1-Score across 250 image classes and optical character recognition (OCR) models using vision transformers with 90% accuracy to enable efficient customer photo searches
- Leveraged CLIP (Contrastive Language-Image Pre-Training), a multimodal model, to integrate semantic search into the NAS search engine, empowering customers to search for photos and files using human-readable descriptions instead of conventional keywords
- Deployed models on edge devices, including customer NAS systems with Tensor Processing Unit (TPU) and Neural Processing Unit (NPU) acceleration, improving data security and inference speed within constrained computing resources
- Mentored junior personnel on programming, project organization, and training OCR models

TutorABC (largest online English learning company in Taiwan)

Taipei, Taiwan

AI Algorithm Engineer

Jun. 2020 - Feb. 2022

- Created an 81% accurate customer churn detection model using random forest to decrease churn rates by 5%
- Developed an XGBoost customer purchase detection model with a 78% accuracy rate; utilized explainable machine learning method (SHAP value) to boost purchase rates and formulate targeted sales strategies
- Extracted key customer feedback using computer vision (YOLO, OCR) and natural language processing (TFIDF, BERT) models, enhancing data analysis for additional product features and improved user experience
- Accelerated the extraction, transformation, and loading (ETL) processes by 50%; consolidated by implementing Airflow for machine learning operations (MLOps)
- Mentored a junior engineer in programming, project structuring, and MLOps

National Taiwan University
Graduate Student Research Assistant

Taipei, Taiwan
Sep. 2017 - Aug. 2019

- Derived an adjusted Chao2 species richness estimator, reducing underestimation by 15% and mitigating a 10% overestimation in scenarios with very low corrected denominators while mitigating identity errors common in species surveys
- Conducted data cleaning on weed and plant cover species surveys conducted in Soft Bridge County, Taiwan, and Grand St. Bernard Pass, Switzerland

TEACHING EXPERIENCE

National Taiwan University & Taipei Medical University
Teaching Assistant Conference Lecturer

Taipei, Taiwan
Feb. 2019

- Conducted teaching sessions for 100+ students
- Presented teaching methodologies, crafting materials, and becoming a proficient teaching assistant

National Taiwan University
Teaching Assistant

Taipei, Taiwan
Sep. 2017 - Jan. 2019

- Taught statistics and linear algebra to accounting, agricultural chemistry, agronomy, and veterinary medicine majors
- Designed and delivered TA courses covering R and Excel fundamentals
- Achieved a 4.58 rating out of 5.0 from 54 students; received the Excellent Teaching Assistant Award (Top 1% evaluation score)

PUBLICATION

Yen, J.-H., Chiu, C.-H. (2020). Richness estimation with species identity error. *Proceedings 62nd International Statistical Institute World Statistics Congress*, **Volume 6**, 401-408.

Yen, J.-H., Chiu, C.-H. (2019, August 18-23). *Richness estimation with species identity error* [Poster presentation]. The 62nd International Statistical Institute World Statistics Congress, Kuala Lumpur, Malaysia.

Yen, J.-H., Chiu, C.-H. (2018, July 22-27). *Richness estimation in the existence of species identity error* [Poster presentation]. The 61st Symposium of the International Association for Vegetation Science, Bozeman, Montana, USA.