

YEN-HSIANG, HUANG

Nickname: [Teddy](#) | ✉ teddyhuangyh@gmail.com | [in](#) [Site](#) | [🔊](#) [TeddYenn](#)

RESEARCH EXPERIENCE

- ◆ **ShiNyP: An R/Shiny platform for SNP analysis and with AI-assisted features** 2024–2025
ShiNyP is an intuitive GUI platform developed using R/Shiny, designed to streamline SNP analysis in genetic research. This application generates over 70 tables and publication-ready figures, and features an integrated AI-driven reporting system to assist with structured report generation.
ShiNyP User Guide: <https://teddyenn.github.io/ShiNyP-guide>
ShiNyP Preview: https://teddyhuang.shinyapps.io/ShiNyP_Demo/
- ◆ **GWAS for Anaerobic Germination in Rice** 2024–2025
This project, conducted during my research exchange at Texas A&M University, employed HPC to conduct a GWAS using high-density SNP data from the 3K Rice Genome Project. The primary objective was to identify candidate genes associated with hypoxic germination tolerance in rice.
- ◆ **Selection Footprints in Taiwanese Edamames** 2023–2024
This study revealed distinct selection patterns between edamames and soybeans by identifying selection footprints and favorable alleles specific to edamames accessions. The findings offer valuable genomic insights to support the development of improved breeding strategies in Taiwan.
Electronic book: https://teddyenn.github.io/population_genomics-edamame
- ◆ **A Multiple Phenotype Imputation for Core Collection in Taiwanese Edamames** 2022–2023
This study suggested that multiple imputation is an efficient and reliable approach for addressing missing phenotypic data in correlated samples, reducing the need for re-phenotyping accessions.
Journal article: <https://doi.org/10.3389/fpls.2022.948349>
- ◆ **Collection of Applications for Visualizing Statistics** 2025–Present
A series of interactive applications are being developed using Python/Streamlit to visually convey key statistical concepts, aiming to enhance the learning experience in statistics education.
Demo website: <https://stat2vis.streamlit.app>

PUBLICATIONS & MANUSCRIPTS

Journal Articles

- Huang, Y. H., Chen, L. Y., Septiningsih E. M., Kao, P. H., Kao, C. F. (2025) *ShiNyP: Unlocking SNP-based population genetics—AI-assisted platform for rapid and interactive visual exploration. Molecular Biology and Evolution*, 43(6), msaf117. (IF: 11.0)
- Kao, P. H., Baiya, S., Lee, C. W., Tseng, C. W., Chen, S. Y., Huang, Y. H., & Kao, C. F. (2025). Identification of key drought-tolerant genes in soybean using an integrative data-driven feature engineering pipeline. *Journal of Big Data*, 12(1), 1-30. (IF: 8.6)
- Jhan, L. H., Yang, C. Y., Huang, C. M., Lai, M. C., Huang, Y. H., Baiya, S., & Kao, C. F. (2023). Integrative pathway and network analysis provide insights on flooding-tolerance genes in soybean. *Scientific Reports*, 13(1), 1980. (IF: 4.6)
- Huang, Y. H., Ku, H. M., Wang, C. A., Chen, L. Y., He, S. S., Chen, S., ... & Kao, C. F. (2022). A multiple phenotype imputation method for genetic diversity and core collection in Taiwanese vegetable soybean. *Frontiers in Plant Science*, 13, 948349. (IF: 6.6)

Manuscripts (first author)

- Huang et al. Genomic footprints of selection for enhancing productivity in Taiwanese vegetable soybeans through core collection framework.



EDUCATION

B.S. in Agronomy	2019–2023
National Chung Hsing University (NCHU), Taiwan	
GPA: 3.93	
M.S. student in Agronomy (Division of Biostatistics)	2023–2025
National Chung Hsing University (NCHU), Taiwan	
GPA: 4.11	
Advisor: Dr. Chung-Feng Kao	
Thesis: <i>ShiNyP</i> : An R/Shiny platform for SNP analysis and with AI-assisted features	

WORK HISTORY

Intern	Jul–Aug, 2020
Koo Botanic Conservation Center (KBCC), Taiwan	
Intern	Jan–Feb, 2022
Taiwan Agricultural Research Institute (TARI), Taiwan	
Office assistant	Jul, 2021–Aug, 2024
Office of R&D, National Chung Hsing University, Taiwan	
Research assistant	Jan–Dec, 2024
Agronomy Lab206, National Chung Hsing University, Taiwan	

PROFESSIONAL EXPERIENCES

Oral Presentations	
• Mini-Symposium Bilateral on Advanced Materials for an Eco-friendly and Sustainable Society, Chon Buri, Thailand	Nov, 2023
• Taiwan Society of Agronomy Annual Meeting, Taipei, Taiwan	Apr, 2024
• 2024 ASA, CSSA & SSSA Annual Meeting, San Antonio, United States	Nov, 2024
• The 32th Plant and Animal Genome Conference (PAG32), San Diego, United States	Jan, 2025
Poster Presentations	
• International Society of Biocatalysis and Agricultural Biotechnology (ISBAB), Taichung, Taiwan	Nov, 2022
• Taiwan Society of Agronomy Annual Meeting, Taipei, Taiwan	Apr, 2023
• 2024 ASA, CSSA & SSSA Annual Meeting, San Antonio	Nov, 2024
• The 11th Asian Crop Science Association Conference (ACSAC11)	May, 2025
Guest Talks	
• NSTC Research Proposal Sharing Session at NCHU	Nov, 2023
• NSTC Research Proposal Sharing Session at NCHU	Apr, 2024
University Visits	
• Northwest A&F University, China	Jun, 2023
• Kasetsart University and Chulalongkorn University, Thailand	Nov, 2024
• Texas A&M University, United States	Nov, 2024–Feb, 2025
Host: Dr. Endang M. Septiningsih	



AWARDS

• The 4 th Science Paper Competition, NCHU (2022)	2 nd Place
• English Presentation and Poster Competition, NCHU (2022)	Honorable Mention
• The 5 th Science Paper Competition, NCHU (2023)	3 rd Place
• 4 th CH Biotech Innovation Award, CH Biotech R&D Co., LTD (2023)	Bronze Award
• Taiwan Society of Agronomy Annual Meeting (2023)	Outstanding Poster
• College Student Research Project, NTSC (2023)	Research Creation Award
• 2023 Agriculture Open Data Hackathon, MOA, Taiwan	Top 10 Finalist
• The 6 th Science Paper Competition, NCHU (2024)	2 nd Place
• Advanced Multidisciplinary Agricultural Biotechnology Conference (2024)	Outstanding Poster
• Diversity Student Poster Contest, ASA, CSSA, SSSA Annual Meeting (2024)	Top 15 Finalist

SCHOLARSHIPS

• Nitori International Scholarship Foundation, \$3,000 USD	Sep, 2022
• Known-You Seed Co., Ltd., \$300 USD	Dec, 2022
• College Student Research Project, NTSC, \$1,200 USD	Dec, 2022
• Dept. of Agronomy Alumni Association of NCHU, \$300 USD	Apr, 2023
• Jiancheng STEM Scholarship, \$300 USD	Dec, 2023
• Elite Well Education Foundation, \$3,000 USD	Sep, 2023
• Hsi-Liu, Kuo Foundation, \$600 USD	Mar, 2024
• Chung Hwa Rotary Education Foundation, \$4,100	Jan, 2025
• Dept. of Agronomy Alumni Association of NCHU, \$300 USD	Apr, 2025

TRAVEL GRANTS

• NCHU-TAMU Bilateral Academic Cooperation (Nov, 2024–Feb, 2025)	\$6,000 USD
• NSTC Travel Grant (Nov, 2024)	\$1,100 USD
• NSTC Travel Grant (Jan, 2025)	\$830 USD

TOOLS & LANGUAGES

Programming & Tools: R; Python; Plink; TASSEL; Shiny (R); Streamlit (Python)

Languages: Mandarin: Native; English: Upper-Intermediate