

Yu-Feng Huang / 黃鈺峰

Bioinformatician

Seasoned bioinformatician with over 20 years of experience in bioinformatics and more than 10 years specializing in next-generation sequencing (NGS) data analysis, including cancer research, clinical bioinformatics, genome assembly and annotation, and metagenomics analysis. Proficient in interpreting data from various sequencing platforms such as Illumina MiSeq, HiSeq, and NextSeq, as well as Oxford Nanopore technologies. Skilled in integrating analytical tools with reference databases to deliver comprehensive and tailored bioinformatics solutions. Experienced in applying machine learning techniques - including classification, clustering, and feature engineering - to support predictive modeling and data-driven discovery in genomics and precision medicine.

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EXPERIENCE

- | | |
|--|---------------|
| Team Lead, Bioinformatics Development Department, Bioinformatics Division | 2024.9~ |
| Innovation Project Lead, Innovation Project Department | 2024.5~2024.8 |
| Associate Director, Bioinformatics Division | 2023.8~2024.4 |
| Manager, Bioinformatics Innovation Department, Bioinformatics Division | 2022.9~2023.7 |
| Manager, Applied Artificial Intelligence, Software Service Division | 2022.7~2022.8 |
| Senior Bioinformatics Engineer, Bioinformatics & Artificial Intelligence Division | 2021.7~2022.6 |
- ACT Genomics
- Lead the bioinformatics team (2 ~ 15 members), managing a team of engineering focused on NGS pipeline R&D and integration with assay design team
 - Supervise core algorithm development, Nextflow/Kubernetes-based pipeline development: **developed the refactored Nextflow pipeline**
 - Oversee product-grade pipeline architecture and continuous improvement for clinical NGS workflows: **deployed the refactored Nextflow pipeline on an in-house Kubernetes-based platform to support an RUO kit**
 - Core algorithm development: **fusion detection**
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| Adjunct Assistant Professor | 2021.7~2022.1 |
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- Yuan Ze University
- Lecture course: database system
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| Bioinformatician/Researcher | 2021.2~2021.6 |
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- Top Science Biotechnologies Inc.
- Designed and implemented customized bioinformatics services
 - Analyzed the next-generation sequencing data
 - Executed the industry-academia collaboration project
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| Postdoctoral Researcher | 2011.11 ~ 2021.1 |
|--------------------------------|------------------|
- Genomics Research Center, Academia Sinica
- Discovered disease-associated SNPs from early-onset breast cancer cohort with paired experiments
 - Developed the analysis framework for screening the microbial species in circulating blood with the comparison of healthy individuals and early-onset breast cancer patients
 - Invented the sequencing biotechnology - "T Oligo-Primed Polymerase Chain Reaction" (TOP-PCR)
 - Developed the comprehensive analysis framework for circular genome assembly, annotation, and submission (e.g., mitogenome, nucleopolyhedrovirus)
 - **Published 10 peer-reviewed manuscripts**

Postdoctoral Researcher

2010.2 ~ 2011.7

Computer Science, National Taiwan University

- Developed machine learning framework of RNA-binding residues prediction with given RNA-binding protein sequence
- Implemented web service for NA-binding residue prediction framework

System Administrator

2005.06 ~ 2011.07

Core Facility, Center for Systems Biology, National Taiwan University

- Built and managed a **16-node Linux cluster with TORQUE** for job scheduling and NFS for centralized file sharing, supporting high-throughput computational workloads.

System developer

2005 ~ 2010

Center for Biotechnology, National Taiwan University

NTU Biotech Summer Course Online Registration System (<https://nbsc.cbt.ntu.edu.tw/>)

- Designed and implemented the **online registration** system
- Maintained system regularly and improved function
- Utilized **LAMP** total solution

Full-Time Teaching Assistant

2004.8 ~ 2006.7

Computer Science, National Taiwan University

- Led the administration team of workstation laboratory
- Maintained the CSIE's main servers (WWW/MAIL/NFS; Linux & FreeBSD)
- Served as course TA of required courses

Adjunct Lecturer

2008.9 ~ 2009.6, 2002.9 ~ 2004.2

Hwa Hsia Institute of Technology

Lectured required courses including data structure, information security and computer architecture

SKILLS

Programming & Scripting Language: Python, R, Perl, C, PHP, Shell scripting (Bash)

Web & Application Stack: LAMP Total Solution (Linux, Apache, MySQL, PHP/Perl/Python); Full-stack scripting for bioinformatics platforms and web-based tools

Workflow & Infrastructure Tools: Nextflow, Docker, Kubernetes (K8s), Git, Jira

Machine Learning & Data Sciences: Scikit-learn (XGBoost, Random Forest, SVM, Logistic Regression), NumPy, Pandas, libSVM; applied in predictive modeling and variant classification

EDUCATION

Doctor of Computer Science

2010

National Taiwan University

Thesis: A study of prediction of protein binding residue

Published 7 peer-reviewed manuscripts

Dr. Yen-Jen Oyang (歐陽彥正 博士)

Dr. Chien-Kang Huang (黃乾綱 博士)

Master of Computer Science

2001

National Chung Cheng University

Thesis: Personalized information subscription and search

Dr. Sun Wu (吳昇 博士)

