RESEARCH ASSOCIATE

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Forrest Hsu

me@forresthsu.com || 206.366.5909 || linkedin.com/in/forrest-hsu/ || github.com/hforrest/

SUMMARY

Self-starting and ambitious **molecular biologist** with a passion for increasing efficiency and creating biological solutions to modern problems. Effective **process improvement** at Zymergen, **developed assays** for Adaptive Symbiotic Technologies, learned **synthetic biology** with Washington iGEM. Demonstrated capability in individual and team environments.

EXPERIENCE

RESEARCH ASSOCIATE || Zymergen

Jul 2021 || Emeryville, CA

We partner with nature to create the products of tomorrow

- Built hundreds of plasmids and strains of *E. coli* using genetic libraries to improve titer and solubility of the target peptide.
- Created a Jupyter notebook with a GUI that was adopted by 4 teams to properly create sample relationships in LIMS, eliminating previously common errors.
- Produced protocols and scripts to increase the robustness, repeatability and decrease hands on time of 5 workflows by up to 90%.
- Purified the target peptide using column chromatography and various PAGE

NEW PRODUCT DEVELOPMENT BIOLOGIST || Adaptive Symbiotic Technologies

Sep 2018 – May 2020 || Seattle, WA

Agbio startup that develops endomycorrhizal fungi increase abiotic stress tolerance

- Fabricated and programmed an image analysis platform for seed-microbe interactions, halving data collection time and increasing data precision five-fold.
- Assessed microbe performance by performing molecular, biochemical, enzymatic, and growth assays.
- Developed workflows to characterize fungal - plant interactions.
- Conducted research and development with filamentous fungi, yeasts, prokaryotes, and plants.
- Presented research at the UW Undergraduate Research Symposium.

OFFICER AND RESEARCHER || Washington iGEM

Mar 2020 - Nov 2020 || Seattle, WA

The University of Washington's premier competitive synthetic biology team

- Gained experience with plasmid design, genetic engineering, and computational biology.
- Organized team functions such as literature review, external presentations, and project design.
- Presented the team's work at an international synthetic biology symposium.

SKILLS

Laboratory || Automation (Tecan, Bravo, ZAG, QPix), PCR, Gel Electrophoresis (PAGE, Agarose), Western Blot, Mini Prep, Gibson Cloning, Genetic Transformation, Antibiotic Screening, Sterile Technique, Fungal Culture, Microscopy, Prototype Fabrication

Computer || Programming and Data Analysis [Python], Process Automation [Python], LIMS, Benchling (ELN), JMP, Jupyter/Binderhub, Github, ImageJ [Macros], Excel, Microsoft Office, LaTeX, Gsuite, Notion

EDUCATION

UNIVERSITY OF WASHINGTON

Bachelor of Science in Molecular, Cellular, and Developmental Biology, Class of 2021 || GPA 3.4

SEATTLE CENTRAL COLLEGE
Associate of Science, Class of 2019