Eric Yang

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Education

University of Washington, Seattle, WA (September 2016 – June 2020)

- ·B.S. in Bioengineering | Minor in Applied Mathematics | 11x Dean's List Award | Cumulative GPA: 3.74/4.00
- ·Departmental Honors: Development of Python Course for Bio-Science Applications (Protein design, Neural networks, Genomics)
- ·Relevant Coursework: Data Structures and Algorithms, Machine Learning, Genome Informatics, Scientific Computing
- ·Selected Projects: HuskyMaps, Analog ODE Solver, Anophelseize (see ericyang789.github.io for full list and descriptions)

Highlighted Skills

Programming and Software

·Python (NumPy, SciPy, Pandas, Scikit-Learn, Keras, Matplotlib) ·R ·Java ·MATLAB ·HTML ·CSS ·Inventor ·COMSOL ·FIJI/ImageJ ·LabView ·LaTeX ·Microsoft Office

Wet and Dry Laboratory Skills

·2D/3D Mammalian and stem cell culture ·2-Photon microscopy ·Optical/Fluorescence microscopy ·Next gen. sequencing ·Dynamic Light Scattering ·Gel electrophoresis ·Inorganic/Organic chemical synthesis ·Liquid Chromatography ·Mass Spectrometry ·Nuclear Magnetic Resonance ·PCR ·Protein expression ·CAD ·3D Printing ·Laser cutting

Professional Experience

Undergraduate Researcher, Professor Cole DeForest Research Group (March 2017 – June 2020)

- ·Designed user-programmable biomaterials for applications in targeted drug delivery, tissue engineering and stem cell biology
- ·Notably developed 3D arteriole-capillary-venule unit with unprecedented resolution to study malaria-infected red blood cells
- ·Processed large blood flow datasets, developed image and statistical analysis software in MATLAB to support various projects
- ·Co-authored 1 peer-reviewed manuscript in *Science Advances*, presented work in 2 professional research symposiums

Undergraduate Teaching Assistant, Univ. of Wash. Department of Bioengineering (September 2019 - December 2019)

- ·Served as a teaching assistant for 70+ undergraduates in BIOEN 326: Solid and Gel Mechanics taught by Prof. Wendy Thomas
- ·Conducted weekly discussion sections, held review sessions/office hours, received high teaching evaluation by students (4.7/5.0)

Research Associate Intern, Illumina, Inc. (June 2019 - September 2019)

- ·Served as a summer intern within the materials science and advanced platform technology development team
- ·Developed and automated surface-based DNA assays to enable continuous genomic sequencing on single flow cell
- ·Designed quality control assessments and analyzed next generation sequencing data with in-house software
- ·Presented research results to senior scientists, managers and directors to support patent applications and product development

Engineering Design Coach, University of Washington College of Engineering (September 2018 - March 2019)

- ·Served as a teaching assistant for 50+ undergraduates in ENGR 105: Introduction to Engineering Design
- ·Supported weekly laboratory sections in Java programming, Arduino scripting, mechanics, circuitry, CAD and 3D printing

Summer Innovation Scholar, CoMotion at the UW and Mary Gates Endowment (June 2018 - August 2018)

- ·Developed novel drug delivery hydrogel platform specifically sensitive to a variety of tumor microenvironment-associated cues
- ·Established nanogel formulation strategies that enable biomaterials to circulate and degrade in the body with limited side effects
- ·Awarded 2 University research funding/scholarships, presented research and design to University faculty and industry leaders

Summer Operations Intern, Galileo Learning (June 2017 - August 2017)

- ·Fostered a safe and engaging environment for 900+ students from ages four through ten in STEM-focused summer camp

Mathematics and Sciences Tutor, Stacy Kadesh and Associates College Consulting (August 2014 - August 2017)

- ·Tutored high school and college students in algebra, geometry, calculus, statistics, chemistry, biology and ACT/SAT tests
- ·Recommended by school teachers and counselors as tutored students showed significant improvement in grades and test scores

Leadership Experience

Member, University of Washington Biomedical Engineering Society (September 2016 – June 2020)

- ·Member of a student-run organization serving students, faculty, and staff in the Department of Bioengineering at the UW

Director of Funding and Communications, UW Bioengineers Without Borders (November 2016 – January 2020)

- ·Developed a low-cost *Anopheles gambiae* male mosquito capturing device to be used for field research in Uganda
- ·Led an interdisciplinary team of 18 students, awarded 2 entrepreneurial funding awards, finalist in health innovation competition

Undergraduate Research Leader, Univ. of Wash. Undergraduate Research Program (October 2018 - June 2019)

·Selected into a small group of outstanding undergraduate researchers who conduct outreach activities to promote research
·Increased awareness and participation of undergraduates in research of all disciplines at the UW

Personnel Committee Member, Associated Students of the University of Washington (November 2017 - June 2018)
·Provided human-resources-related recommendations to the Associated Students of the UW Board of Directors
·Chaired 5 hiring committees to hire 65+ employees in the student government for the following academic year

Program Leader, Associated Students of the UW Leaders Program (January 2017 - June 2017)
·Selected into a cohort of 47 students from a pool of 250 applicants to develop leadership, professional, and academic skills

Honors and Awards

Tau Beta Pi Engineering Honors Society, Univ. of Washington (May 2020)
·Inducted for leadership and academic achievements (top 20% of senior class in UW College of Engineering)

Husky 100, Univ. of Washington (March 2020)
·One of 100 students recognized for making the most of their time at the UW by connecting experiences to make a difference

Husky Empowerment Award, Univ. of Washington (April 2019)
·Awarded to UW Bioengineers Without Borders for our efforts to tackle challenging global health needs as a student organization

2x Buerk Center for Entrepreneurship Prototype Funding Award, Univ. of Wash (January 2018 and 2019)
·Twice awarded annual research funding to design and develop male mosquito capturing devices

Levinson Emerging Scholar Award, Univ. of Washington (September 2018)
·Prestigious scholarship and research funding awarded to talented UW students pursuing advanced bioscience and related research

Engineering Design Coach Scholarship, Univ. of Washington (September 2018)
·Scholarship awarded to exceptional teaching assistants mentoring first year engineering students

CoMotion Mary Gates Innovation Scholarship, Univ. of Washington (June 2018)
·Scholarship awarded for full-time intensive summer research internship participation in faculty-led startup initiatives

Hollomon Health Innovation Challenge Finalist, Univ. of Washington (March 2018)
·Selected as a finalist out of 39 entries to present male mosquito capturing device to 150 experts in healthcare and business

Purple and Gold Scholarship, Univ. of Washington (September 2016)
·Scholarship awarded for four years of undergraduate studies at the University of Washington

Publications

Arakawa, C., Gunnarson, C., Howard, C., Bernabeu, C., Phong, K., **Yang, E.**, DeForest, C. A., Smith, J.D., Zheng, Y., Biophysical and Biomolecular Interactions of Malaria-Infected Erythrocytes in Engineered Human Capillaries. *Science Advances. **6**, eaay7243 (2020).*

Research Presentations

Yang, E., & Vincent, L. Development of Reusable Platforms for Multi-Sample Sequencing.
Illumina, Inc. Summer Intern Exposition (San Diego, CA, 2019)

Yang, E., Badeau, B., & DeForest, C. A. Logic-Degradable Nanogels for Environmentally Triggered Chemotherapeutic Delivery.
University of Washington Undergraduate Research Symposium (Seattle, WA, 2019)

Yang, E., Badeau, B., & DeForest, C. A. Preparation of Nanogels via Strain-Promoted Alkyne-Azide Cycloaddition.
University of Washington Summer Research Symposium (Seattle, WA, 2018)

Service

Discovery Days Volunteer, University of Washington College of Engineering (April 2018 – April 2019)
·Led annual hands-on activities for 4500+ K-12 students and community members to learn about recent engineering advances

Abstract Reviewer, University of Washington Undergraduate Research Symposium (February 2019)
·Reviewed 1300+ research abstracts from all disciplines submitted to present at the UW Undergraduate Research Symposium

Advisor and Panelist, University of Washington School of Medicine (June 2018)
·Served as an advisor and health sciences panelist for two high school cardiology and neuroscience summer camps at the UW

Campaign Volunteer, Associated Students of the University of Washington (April 2018 - May 2018)
·Campaigned for the Engage UW campaign running for the Board of Directors within the Associated Students of the UW

Dawg Daze Leader, University of Washington First Year Programs (September 2017)

·Developed programming and logistical support during welcoming events to help 7000+ new students transition to the University

Junior Volunteer, San Ramon Regional Medical Center (July 2013 - October 2015)

·Shadowed physical therapists weekly and assisted with data analysis, administrative duties, and equipment maintenance