Ethan Zang

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EDUCATION

Rutgers University, Honors College School of Engineering — September 2017 – May 2021
Bachelor of Science (B.S.) in Computer Science & Chemical Engineering, Minor in Mathematics — New Brunswick, NJ

- **GPA:** 3.96 / 4.00
- **Awards & Honors:** Presidential Scholar (Full scholarship awarded to <1% of undergraduates), National Merit Finalist 2017, Dean's List (all semesters), HOSA International Conference 1st Prize Biomedical Debate 2016
- **Coursework:** Data Structures, Computer Architecture, Design and Analysis of Algorithms (Fall 2019), Machine Learning (Fall 2019), Linear Optimization, Adv. Calculus, Differential Equations, Multivariable Calculus, Discrete Math

EXPERIENCE

Merck & Co. — May 2019 – August 2019
Software Engineering Intern — West Point, PA

- Designed automated report generation tool in R (Shiny, Markdown) to develop a robust pipeline for quality analyses
- Collaborated in an agile environment to deploy tool on HPC servers with ~250 employee hours/ year saved on reports
- Refactored user interface for streamlined user experience with data selection and input features in HTML/ CSS
- Utilized Tidyverse package (dplyr, ggplot) to prototype dynamic plot visualizations and statistical method previews

Computational Hybrid Soft Materials Lab — August 2018 – Present
Research Assistant (Advisor: Dr. Meenakshi Dutt) — New Brunswick, NJ

- Collaborated with masters and PhD students to design C++ package for the characterization of peptide structures
- Built 3D equal-width binning and processing methods for positional data to exponentially increase analysis efficiency
- Incorporated analysis package as part of a proprietary Python workflow which automates dynamics simulations
- Awarded 3rd Prize Rutgers Departmental Poster Conference 2019 out of ~40 competitors

Becton Dickinson — September 2016 – May 2017
Engineering Intern — Franklin Lakes, NJ

- Analyzed materials data for syringe and injector product development projects using Thermofisher software
- Identified a key supplier product specification error by using statistical t-test and regression analysis in Minitab

PERSONAL PROJECTS

Linear Programming Calculator

- Implemented calculator for revised simplex method to solve linear programming problems with greater efficiency
- Launching Java UI with MATLAB Engine API for user to intuitively define parameters of the problem at hand

Gromacs File Converter

- Cross-functionally collaborated on refining Python converter to generate usable .txt file from Gromacs .gro file
- Engineered converter to allow for evaluation of dynamics simulation system robustness in C++ and other languages

Merakhi Company Website

- Prototyping fashionable smart bracelet for social innovation firm so that wearers can effectively combat sexual assault
- Building company website to promote product to investors using Javascript, HTML/ CSS and various technologies

LEADERSHIP

Rutgers Engineering Governing Council — September 2018 – Present
Chair of Academic Affairs — New Brunswick, NJ

- Overseeing all student academic affairs in the School of Engineering as the head of the academic affairs committee
- Compiled 10 flyers regarding honors academics and department advising for university-wide dissemination

Rutgers University Honors College — January 2019 – Present
Honors College Ambassador — New Brunswick, NJ

- Led 3 prospective and admitted student tours and information sessions in the Honors College
- Assisted in organizing and facilitating the Presidential Reception for ~100 incoming Rutgers Presidential Scholars

SKILLS

Proficient in: Java, C++, R (Shiny, Markdown), MATLAB
Some experience with: C, Python, HTML/ CSS, Javascript, SQL