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
Data Science and 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 given problem

Gromacs File Converter
- Cross-functionally collaborated on refining Python conversion tool for Gromacs .gro file to usable .txt 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++, Matlab, Git
Some experience with: R (Shiny, Markdown), C, Python, Jupyter Notebooks, HTML/ CSS, Javascript, SQL