

YEJIN CHA

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🐙 github.com/yejcha99

Education

University of Pennsylvania

Sep. 2021 – May 2023

Master of Science in Engineering in Computer and Information Science

Philadelphia, PA

Colgate University

Sep. 2017 – May 2021

Bachelor of Arts in Computer Science, Minor in Mathematical Systems Biology

Hamilton, NY

- Graduated with Magna Cum Laude and Honors in Computer Science (major GPA: 3.89)

Relevant Coursework

- Applied Machine Learning
- Data Structures and Algorithms
- Operating Systems
- Discrete Mathematics
- Linear Algebra
- Probability
- Calculus III
- Human Computer Interaction
- Big Data Analytics
- Artificial Intelligence
- Programming of the Web

Projects

Predicting Response Severity to COVID-19 Vaccines | *Pandas, NumPy, Scikit-learn*

March 2021 - May 2021

- Used different ML models such as SVM, Random Forest, KNN, and Decision Tree to binary classify COVID-19 vaccine response severity as severe/not-severe based on the following features: age, sex, vaccine dose and manufacturer, previous history of illnesses, medications, and allergies.
- Pre-processed CDC and FDA VAERS dataset using Pandas, NumPy, Scikit-learn, and Seaborn
- Evaluated models based on accuracy, precision, and recall

Guess the Celebrity Game | *HTML, CSS, Javascript, REST API, MongoDB React, Nodejs, Express*

October 2021

- Developed a full stack MERN application where players try to correctly guess randomly chosen celebrity's name.
- Managed data in MongoDB, conducted unit and end-to-end testing using cypress and jest, and deployed on Heroku.

Experience

Colgate University

May 2020 – August 2021

Bioinformatics Research Fellow - Department of Mathematics and Biology

Hamilton, NY

- * Title: *Modeling Circadian Clock to Display Link Between SNPs and SAD* – Dr. Ahmet Ay and Dr. Krista Ingram
- * Using MATLAB, developed a mathematical model to simulate human circadian clock and estimated parameter sets that reproduce experimental data regarding SNPs of six circadian clock genes and diurnal preference.
- * Submitted to The Journal of Affective Disorder. Under review.
- * Title: *Vertebrate Segmentation: From Gene Networks to Human Diseases* – Dr. Ay and Dr. Ertugrul M. Ozbudak
- * Using MATLAB, developed a mathematical model to discover the biological regulatory networks that can reproduce the effects of different ppERK concentration conditions on the spatial fold change curve in the fibroblast growth factor (FGF) signal output

May 2019 – August 2019

Research Fellow - Department of Chemistry

Hamilton, NY

- * Project: Measurements of primary biological aerosol in Upstate NY- Faculty advisor: Dr. Anne Perring
- * Using Pandas, developed an efficient and reliable technique for identifying Primary Biological Aerosol Particles (PBAP) data and generated graphs analyzing seasonal and regional variations
- * Handled 350 commercial data sets collected using Instascope/WIBS-4 from four different locations of the country

Technical Skills

Python, SQL, MATLAB, Java, HTML/CSS, JavaScript, C, React, Rest API, MongoDB, AWS, GitHub, VS Code, JupyterLab, Linux

Leadership / Extracurricular

Thought into Action Incubator

July 2020 – Present

Entrepreneur

Colgate University

- * Co-founded “SkinEd”, which is a data-based online educational resource that provides easy access to information on different skincare ingredients to educate customers and increase transparency in the cosmetic industry.

Student Government Association

Sep. 2020 – May 2021

International Life Policy Coordinator

Colgate University

- * Created a mentor-ship initiative to help ease the transition of international students into the Colgate community and better improve alumni connections.