

KYLE SONI

kylesoni.github.io

Cambridge, MA 02138 • kylesoni2142@gmail.com • + 1 (480) 432-9294

EDUCATION

NORTHWESTERN UNIVERSITY

EVANSTON, IL

Bachelor of Arts, Triple Major in Computer Science, Physics, and Integrated Science

SEP 2020 - JUN 2024

- GPA: 3.83
- Completed the highly selective Integrated Science Program (ISP), with advanced coursework in Math, Statistics, Physics, Biology, and Chemistry
- Key Coursework: Machine Learning, Data Structures and Algorithms, Graduate-Level Statistical Methods

RESEARCH EXPERIENCE

EMERGENT BEHAVIOR IN NETWORK GROWTH MODELS

EVANSTON, IL

Researcher

MAY 2023 - PRESENT

- Drove the computational side of a multi-disciplinary 7-person team to create and study network growth models with emergent node behavior
- Improved the runtime for building networks by 50% compared to the literature, writing extensive code in Python
- Delivered analysis of 50 real network datasets (e.g. the citation network), learning key skills including data mining and visualization
- Presented a lightning talk and a poster at NetSci 2024 and Dynamics Days 2024

MAPPING THE DEVELOPMENT OF TASTE STEM CELLS

EVANSTON, IL

Researcher

MAY 2021 - SEP 2022

- Spearheaded the analysis of genetic data obtained from collaborating biologists, identifying 12 genetic factors that likely determine the fate of taste stem cells
- Developed a mathematical model of gene-protein interactions in collaboration with advisor, along with applying the UMAP and t-SNE Python packages for data visualization
- Gained experience with R and its packages, including Seurat and PCA

PROJECTS

SANDBOX COMPUTER GAME (<https://kylesoni.itch.io/safe-space>)

JAN 2024 - MAR 2024

- Led a 4 person team to design and create a fully playable computer game in the Unity engine, improving skills in C# and the Unity API
- Organized bi-weekly meetings and tracked progress of each member with Trello
- Earned a perfect score on the project

STATISTICAL METHODS PROJECT (<https://github.com/kylesoni/measuring-the-m-sigma-relation>)

SEP 2023 - DEC 2023

- Delivered a Python and SQL analysis of 51 galaxies and the relationship to corresponding black holes
- Gained experience with Bayesian statistics by fitting a model to data with uncertainties on both axes

SKILLS

- Technical Skills: Python, R, SQL, C, C++, C#, Unity, Jupyter Notebooks, MS Office, Git
- Soft Skills: Teamwork, Communication, Leadership, Time Management, Adaptability
- Additional Skills: SDLC (Software Development Life Cycle), Northwestern QUEST (Computing Cluster)