

EDUCATION

Columbia University, School of Engineering <i>M.S. in Applied Math GPA: 3.66</i> <ul style="list-style-type: none">Related Courses: Numerical Methods, Numerical Algebra& Optimization, Optimal Transport Theory, Complex Analysis, Stochastic Analysis, Algorithms, Data Analysis	Sep 2021 - Dec 2022 New York, NY
Pennsylvania State University (PSU) <i>B.S. in Math GPA: Major 3.78, Overall, 3.65</i>	Sep 2019 - May 2021 State College, PA
Ohio State University (OSU) <i>B.S. in Math</i>	Sep 2017 - May 2019 Columbus, OH

SKILLS

- Python (Numpy, Scipy, Matplotlib, Sympy, Statsmodels etc.), Minitab, Mathematica, MATLAB, Microsoft Office, Latex
- Mandarin (Native)

RESEARCH EXPERIENCE

Fairness in Evolutionary Game Theory <i>Supervised by Prof. Christopher Griffin at PSU</i> <ul style="list-style-type: none">Wrote program in Python to simulate results and decreased the running time by 80%Used distribution plots, density plot, log plot and found a correlation between cost of living and selfishnessPublished co-edited paper in Physics A with Prof. Griffin	Apr 2020 - Sep 2020 State College, PA
Detecting Bots on social media <i>Supervised by Prof. Christopher Griffin at PSU</i> <ul style="list-style-type: none">Wrote a Python program to transform Unix time into dates and performed data analysis such as detrending moving average, Fast Fourier transform, ARIMA model, MFDFA etc. on a dataset of 2.4 million tweets from ISIS related usersDivided users into 4 groups based on frequency of posting, then built statistical models for each groupDeveloped an algorithm that successfully detected more than 90% robots among those Tweeter users	Aug 2020 - May 2021 State College, PA
Population Dynamic Model of Cancer Cells and White Blood Cells <i>Supervised by Prof. Christopher Griffin at PSU</i> <ul style="list-style-type: none">Investigated population dynamic of cancer cells and white blood cells through academic journalsBuilt game theory model of differential equations for cancer and white blood cells with PythonAnalyzed cancer cells' payoff (survival rate) using 3D phase portrait graph regarding two strategies: whether signal as cancer cell	Aug 2020 - Dec 2020 State College, PA

PROJECTS EXPERIENCE

Simulation of common neuro with sodium and potassium channels <ul style="list-style-type: none">Simulated the behavior of a common neuron, which has sodium and potassium channels using classical Hodgkin-Huxley modelCompared performance of RK45 and BDFYielded a simulation matches the experimental results i.e. converges to resting potential, spike train, firing threshold	Nov 2022 - Dec 2022
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EXTRACURRICULAR & LEADERSHIP EXPERIENCE

Varsity Soccer Team <i>Member</i> <ul style="list-style-type: none">Placed first in MuncieParticipated in Indiana State Championship	Sep 2015 - May 2017 Muncie, IN
Cryptology Club <i>Co-founder and President</i> <ul style="list-style-type: none">Held weekly meetings to discuss encryption methods such as zigzag cypher, enigma, public key, elliptic curve etc.Developed some efficient (polynomial time complexity) algorithm to decipher messages encrypted by different ways and test them with python	Sep 2019 - May 2021 State College, PA

