

EDUCATION

- **DePaul University** Chicago, IL
B.S., Mathematical Sciences; GPA: 4.0 Sep 2022 - Jun 2026
 - **Relevant Coursework:**
Mathematical Modeling, Differential Equations, Combinatorics, Fields and Galois Theory

WORK EXPERIENCE

- **DePaul University** Chicago, IL
Math Tutor Sep 2023 - PRESENT
 - **Job Duties:**
Guide 10+ college students each week towards a better understanding in all types of math classes ranging from Calculus to Combinatorics and Linear Algebra
- **Rochester Institute of Technology (REU)** Rochester, NY
Researcher Jun 2024 - Jul 2024
 - **Program Overview:**
Conducted research at Rochester Institute of Technology. Used MATLAB and concepts from Control Theory, Dynamical Systems, and Numerical Analysis to analyze the observable properties of a cardiac cell model
 - **Results:**
Our mathematical model showed that refractory variables are better measurements for data assimilation compared to voltage variables. In addition, we used matrix-free methods to estimate our dynamical system with computational efficiency, getting an error norm of $< 10^{-12}$
- **Undergraduate Summer Research Program (REU)** Chicago, IL
Researcher Jun 2023 - Aug 2023
 - **Program Overview:**
Conducted research at DePaul University on graphs, complete bipartites, b -colorings, and b -chromatic numbers
 - **Results:**
Published results in [DePaul Discoveries](#), DePaul's undergraduate journal. Discovered a theorem on deleting edges from complete n -partites and its effect on the b -chromatic number, denoted $\varphi(G)$, which is oddly always n for such graphs
- **One Summer Chicago** Chicago, IL
iOS App Development Training Program Jun 2021 - Aug 2021
 - **App Design:**
Learned to program in Swift. Developed a prototype app using Swift designed to help find lost pets. Users were allowed to post information about their lost pets which would alert their neighbors to be on the lookout

PERSONAL RESEARCH

- **Computer Music Generator with Markov Chains** — [Project Folder](#)
 1. Mathematically modeled a music generator using python and Markov Chains
 2. Putting in a MIDI sample to the python code will output a new MIDI file inspired by the original sample
- **Was Math Invented or Discovered?** — [Research Paper/Repurposed Research Paper](#)
Winner of DePaul University's First Year Program Writing Showcase
 1. Is Math something Independent of humans or is Math's existence dependent on us? Do numbers exist?
 2. Discussed Euclidean and Non-Euclidean Geometry, Axioms, Axiomatic Systems, Platonism, Nominalism, and the Nature of Numbers to answer the question
 3. Repurposed the Research Paper for a more casual audience in the form of a digital journal

SKILLS

- **Programming Languages and General Skills:**
Python, MATLAB, Java, SageMath, Swift, L^AT_EX, Bilingual in English and Polish