PETER KIM

Plymouth, MI 48170
(734) 259-9935, peterjoe2005@gmail.com, pjk1m.com, github.com/PJ1229

SKILLS & ASSETS

Proficient in Programming Languages: C++, Python, HTML5/CSS3/Javascript, Java, MATLAB
Software: Git/GitHub, Visual Studio, Visual Studio Code, XCode, Microsoft Excel, Autodesk Inventor & Fusion

EDUCATION

Wayne State University **Detroit, MI**
Bachelor of Science in Electrical and Computer Engineering, *Graduation: December 2026*
Minor in Computer Science & Mathematics
Course Highlights: Discrete Mathematics (MAT 2860), University Physics for Scientists (PHY 2170), Differential Equations and Matrix Algebra (MAT 2150), Introduction to Programming and Computation (BE 1500)

Washtenaw Community College **Washtenaw County, MI**
Dual Enrollment *August 2023- May 2024*
GPA: 3.70/4.00
Courses: Calculus III (MTH 293), Linear Algebra (MTH 197), Differential Equations (MTH 295), Introduction to Programming with C++ (CPS 171), Object Features of C++ (CPS 271), Data Structures with C++ (CPS 272)

Salem High School **Canton, MI**
GPA: 4.32/4.00 *September 2020- June 2024*
Highlights: Engineering Academy, National Honors Society, Captain Cross Country, Varsity Track & Field

COLLABORATIVE PROJECT EXPERIENCE

Automated Snow Plow **Canton, MI**
Designer, Engineer, & Programmer *September 2024 - May 2024*
- Contributed to the creation of an Automated Snow Plow with 3 high-school classmates as an Engineering Capstone project
- Used a camera to detect location of robot with april tags to work with many types of driveways using a homography transformation
- Sent data using a RF controller through Wifi and wrote the pathfinding and Arduino code for the robot

INDIVIDUAL PROJECTS / PORTFOLIO

Website - www.pjk1m.com
Missile Pathfinding Simulation **-** https://youtu.be/AyyewS0l8y8?si=OvVeHy9T1JZgpgim
- Uses C++ and SFML to visualize a missile pathfinding simulation that incorporates ray marching, convex hull, and pursuit curve algorithms

3D Rendering Software - https://github.com/PJ1229/3D-Rendering-Software-SFML
- Uses SFML & Eigen Library to visualize 3D math functions and linear transformations
- Programmed a dynamic camera to allow the user to move

Decimal to IEEE 754 Converter - https://github.com/PJ1229/Decimal_to_IEEE754_Converter
- Web application designed to convert decimal numbers into IEEE 754 format

Problem Bank Website - https://github.com/PJ1229/PDL_Problem_Bank_Website
- Project for the Plymouth District Library that allows community members to submit problems so Team STEM can tackle them with designs at the Lab

RESEARCH EXPERIENCE

Undergraduate Mathematics Research Seminar **Detroit, MI**
Independent Study, Wayne State University *September 2024 - Present*
- Studying the mathematical details behind machine learning diffusion models and flow matching
- Working under Doctor Yan Wang and Assistant Professor Xiaoli Kong

WORK EXPERIENCE

Plymouth District Library **Plymouth, MI**
Team STEM Member *August 2023 - August 2024*
- Managed lab equipment and helped patrons using software such as Adobe Premiere Pro, Cricut, and GlowForge
- Created Problem Bank Website

Math-Corps UM Dearborn **Dearborn, MI**
Volunteer *July 2023 - August 2023*
- Helped middle and high school students with mathematics

ORGANIZATIONS / ACCOLADES

Society of Computer Developers - Computer Science Club at Wayne State University *September 2024 - Present*
Institute of Electrical and Electronics Engineers - ECE Club at Wayne State University *September 2024 - Present*
Filipino Society at Wayne State University *September 2024 - Present*
AP Scholar with Distinction Award *July 2023 & July 2024*
National Honors Society *September 2022 - September 2023*