

# YUSUF WONG

(347)-785-1063 | yusufwong42@gmail.com | bit.ly/ywong42-portfolio | linkedin.com/in/yusuf-wong-206274195

## EDUCATION

**Macaulay Honors College at The City College of New York, CUNY**

May 2021

B.E. Mechanical Engineering | Minor in Computer Science

Summa Cum Laude (GPA: 3.8)

Full Merit Scholarship—CUNY Macaulay Honors College (2016—2021)

Relevant Coursework: Machine Learning, Artificial Intelligence, Object-Oriented Programming, Software Design

## TECHNICAL SKILLS

**Programming Applications:** C++, Java, Python, SQL, HTML, Arduino, Jupyter Notebook, Android Studio, Linux, Microsoft

**Design Software:** SolidWorks, Fusion 360, ANSYS, Autodesk, MATLAB, Repetier-Host, KeyShot, Simulink Modeling, Eclipse

## WORK EXPERIENCE

**Residential Property Manager, Wong Properties LLC, New York, NY**

Jan 2016 – Present

- Manage daily operations for a multi-unit family property, establishing smooth tenant relations and high satisfaction levels.
- Achieve 100% occupancy rate for 5 years maintaining long-term tenants through proactive maintenance and excellent service.
- Oversee property upgrades, including a \$2,000 water heater and a \$5,000 restroom renovation to enhance unit value and appeal.
- Perform 100s of hands-on repairs, including electrical rewiring and troubleshooting, plumbing servicing, roofing preservation, masonry restoration, drywall patching, painting, appliance replacements, and fixture installations, saving an average of \$10,000 per year in contractor fees and operational costs through efficient, in-house management and proactive maintenance.

**Project Coordinator, MAS Youth Center, New York, NY**

June 2021 – Present

- Organize and oversee robotics, college-prep, ASL, and writing workshops for over 200 youth in professional development.
- Calculate budget requirements for networking and traveling events to determine cost effectiveness and functionality.
- Mentor and empower youth to continue their education, develop better skillsets for the workforce, and advance their careers.

**Mechanical Design Intern, Soterix Medical Inc., New York, NY**

May 2019—March 2020

- Utilized SolidWorks to modify existing 3D models of brain stimulation devices and to improve their quality and efficiency.
- Reverse engineered competitor products using dimensional approximations and 3D printing methods for design evaluation.
- Integrated 3D models into Keyshot 8.2 Pro Software for 2D image rendering and website product development.

**Data Analytics Intern, MTA NYC Transit: Capital Program Management, New York, NY**

July 2019—Aug. 2019

- Examined and processed statistical construction data for underground stations and tunnels on weeknights and weekends.
- Analyzed and tabulated data for weekly work-train schedules detailing required types of construction workers and materials.
- Collaborated with multi-disciplinary team to delegate work-trains to ensure a smooth work schedule.
- Constructed drafts for weekly reports and memorandums for liabilities and future references.

## PROJECTS

**Self-Driving Vehicle Control Modeling using Python on CARLA Simulator via. Coursera**

Spring 2022

Programmed a driving simulation of a virtual, autonomous car on CARLA by utilizing Python and implementing longitudinal and lateral vehicle control modeling, while navigating through preset waypoints along a predefined path and adjusting speed profiles.

**Pokémon Machine Learning, Data Regression & Classification using Python on Jupyter Notebook**

Spring 2021

Utilized Scikit-learn machine learning and Pandas data manipulation Python libraries to make predictions about the qualitative and quantitative stats of the entire Pokémon Universe for Linear Regression and k-Nearest Neighbor Classification analysis. Pokémon datasets were prepped using subsets of a DataFrame that were split into training and testing sets for both machine learning models.

**Baja SAE Senior Design SolidWorks Project**

Spring 2021

Collaborated as a team to design a single-seat, off-road Baja on SolidWorks to compete in the SAE 2021 competition. Implemented Nissan's ATTESA AWD powertrain design system to electromechanically actuate a multiplate clutch pack using an electric motor and a rotating, planetary geartrain design to dynamically split power from the engine to both front and rear axles by transferring 475 ft-lbs. of torque, allowing the driver to safely corner and race with ease.

**3D Printed Robotic Elbow Exoskeleton using SolidWorks**

Spring 2021

Utilized SolidWorks to fabricate an elbow exoskeleton prototype with two degrees of freedom that applies 300 N-cm of assistive flexion and extension torque. Pin joints and load cells were used to provide responsive lateral and medial rotation for the user.

**Finite Element Analysis (FEA) of a Crankshaft using SolidWorks Simulation**

Fall 2019

Utilized SolidWorks to perform stress data analysis and run validation tests on an existing 3D model of a crankshaft pulley design by analyzing locations of restraints and loads. Fillets were added and concentration factors were removed to modify the existing design; a sensitivity test was conducted by varying the dimensions of the fillet radii to validate the FEA model.

**Chess Game App using Java on Android Studio**

Spring 2019

Reversed engineered the game of chess from scratch by utilizing Java and Object-Oriented Programming on Android Studio. A 2D array of customized Image buttons was used to allow two users to play the android application from any smartphone device.

**Air Flow Simulation Project on ANSYS Fluent**

Spring 2019

Ran a simulation of air flow at an inlet velocity and attack angle on an aircraft wing using 3D simulation software with over 3000 iterations to analyze fluid flow, such as pressure differences and velocity fields.