

Jaeho Cho

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Education

The Cooper Union for the Advancement of Science and Art

New York City, NY

Bachelor of Engineering in Electrical Engineering, Bioengineering Minor

Aug 2022 – May 2026

- Half Tuition Scholarship | Myron Coe Scholarship | Full Tuition Scholarship 2025-2026
- Courses: Frequentist Machine Learning, Digital Signal Processing, Communication Theory, Computer Architecture, Integrated Circuit Engineering, Theoretical Neuroscience, Medical Imaging, Bio-Instrumentation & Sensing

Work Experience

Data and AI Intern | Hanwha TotalEnergies Petrochemical

May 2024 – Aug 2024

PWC • Seoul, South Korea

- Developed and optimized advanced time-series forecasting models utilizing GluonTS, Chronos, and Darts Python libraries to generate price predictions for flagship petrochemical products with a 3-month forecasting horizon.
- Refactored backend data pipelines in Django, transitioning from MongoDB to ClickHouse and improving performance.
- Developed a web backend that automates news and article aggregation via private and public APIs, algorithmically integrating forecasts and market indicators to enhance LLM-driven sentiment analysis and deliver actionable insights.

Teacher Assistant | Design and Drawing

Jun 2023 – Aug 2023

The Cooper Union • New York, NY

- Instructed 24 students in engineering design fundamentals, circuit design, Arduino programming, and Onshape CAD.
- Led workshops on Arduinos and circuit design, culminating in students building 3D-printed 4-DoF robotic arms.

Extracurricular Activities

Founder/President | The Pre-Medical & Pre-Dental Society

Sep 2024 – Present

The Cooper Union • New York, NY

- Established a support network for pre-medical and pre-dental students, bridging gaps in guidance at Cooper Union.
- Organized and led events, including a blood drive that resulted in 37 whole blood donations, and alumni networking sessions that successfully connected students with current medical school students and healthcare professionals.

Project Lead | Bioengineering Vertically Integrated Projects

Sep 2022 – Present

The Cooper Union • New York, NY

- Building open-source robotic arms for compliant human interaction, using Mediapipe and OpenCV Python libraries for pose landmark detection and ROS2 for the kinematic mapping of joint positions to the OpenMANIPULATOR-X system.
- Simulated pose mimic systems in Gazebo using MoveIt2 and ros2_control for collision detection and motion planning.
- Designed and fabricated a PCB in Altium for an eTextile sensor, presented at the 2024 ASTM International Exo Games.

Research Assistant | Mechanical Exposure Study

Feb 2024 – Aug 2024

Mount Sinai • New York, NY

- Led the analysis of Xsens IMU data using MATLAB to analyze and quantify mechanical exposure in industrial workers.
- Automated data collection, labeling, and analysis pipelines to streamline research processes and minimize human error.

Shadow | Dr. Steve Doh (Anesthesiologist)

Jun 2023 – Jul 2023

St. Joseph's Medical Center • Yonkers, NY

- Observed medical procedures, including endoscopies, laparoscopies, lithotripsies, orthopedic, and open surgeries.
- Gained insight into medical equipment, from ultrasound and anesthesia machines to the Da Vinci surgical system.

Projects

Differential to Single-ended Amplifier

Nov 2024 – Dec 2024

- Designed schematic and layout with Virtuoso; clean layout-versus-schematic (LVS) and design rule check (DRC).

32-bit Pipelined MIPS Processor

Sep 2024 – Oct 2024

- Designed, implemented, and simulated the processor in Vivado, achieving full positive slack with a 14 ns clock period.

Prosthetic Hand

Aug 2021 – Sep 2023

- Designed and built a 6-DoF myoelectric prosthetic hand for a friend with a congenital left-hand anomaly (acheiria).

Skills

- Programming: Python, MATLAB, Rust, C, C++, Verilog, VHDL, Git, Docker, JavaScript, SQL
- Software: Virtuoso, LTspice, Altium, Vivado, ROS2, Gazebo, Blender, Onshape, Fusion360, Inventor
- Certification: NYS EMT, CPR