

JONATHAN KAJ

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EDUCATION

University at Buffalo, The State University of New York

Expected Graduation: May 2025

Bachelor/Master of Science in Biomedical Engineering

Amherst, NY

- 3.83/4.0 GPA
- Dean's List: Fall 2020, Spring 2021, Fall 2022, Spring 2023

INTERNSHIPS & RESEARCH

Arany Lab

January 2023 – Present

UB Undergraduate Research Assistant

Amherst, NY

- Leading a group project studying the effects of Photobiomodulation and Radio Frequency emitting devices on epithelial stem cells (HaCat) and Oral squamous cell carcinomas (OSCC).
- Evaluated effects of PBM and RF therapies via Colony Formation Assays, AlamarBlue Assays, and RT-qPCR for CD44 gene expression.

Novartis Pharmaceuticals

May 2023 – August 2023

Automation/Packaging Engineering Intern

Hicksville, NY

- Optimized preventative maintenance system for eight production lines, improving efficiency and minimizing downtime.
- Developed heat maps for two company facilities to visualize insect sightings, aiding in effective extermination procedures.
- Collaborated with validation engineers to conduct controlled temperature mapping studies and Waukesha pump qualification.

PROJECTS

ConPanion | Brain Machine Interface Design Challenge

May 2023

- Partnered with three peers to pitch a digital health system to aid collegiate athletes in tracking concussion recovery.
- Pitched proposed design of digital health system, tailored market, and awarded first place prize of \$1500.

Open Ended Modeling | Statics

April 2022

- Performed data examination for a safe and comfortable pool lift design to aid individuals with injuries or disabilities.
- Split up into multiple sections, creating base dimensions, arm lift assembly, stabilizing arms, hydraulics, and counterweights.
- Conducted external and internal equilibrium analysis, ensuring functionality by assessing acting forces and coupling moments. The pool lift design features a 450 lb. weight limit, 240° horizontal rotation, 17' submersion, and 18' ascent, enhancing accessibility.

WalkRight | Principles of Biomedical Engineering

December 2021

- Coordinated with a team of four peers to design a device aimed at maintaining an average walking pace to reduce freezing episodes and improve gait regularity for Parkinson's patients experiencing freezing of gait.
- Utilizes laser projection as a visual cue to boost brain stimulation via external sensory input, promoting and facilitating movement.
- Drafted and 3D printed a cost-effective prototype compatible with various walking aids, resulting in a 95% reduction in production expenses compared to current alternatives.

WORK EXPERIENCE

Julien Boulangerie

August 2021 – August 2022

Sales Product Coordinator

Brooklyn, NY

- Launched and managed Smorgusborg partnership, generating over \$36,000 in sales at weekend pop-up vendor events.
- Engaged with 350+ customers and multiple vendors daily, fostering strong relationships and driving business sales.
- Created sales initiatives for the team to enhance client experience, boosting satisfaction rate from 83% to 92%.

Konditori Swedish Espresso Bar

May 2021 – August 2021

Sous Chef

Brooklyn, NY

- Prepared numerous menu items times daily with consistent care, attention to detail, and quality.
- Prevented infections and ensured store professionalism through daily sanitization and replenishment of workstations.
- Provided training guided three new team members in maintaining clean workstations and ensuring consistent preparation of food dishes.

SKILLS & ACTIVITIES

Skills: Mammalian Cell Culture, Lab Safety, ImageJ, MATLAB, Autodesk Fusion 360 and Inventor, 3D printing, Microsoft office, Arduino, Cell Viability Assay, RT-qPCR, Image Processing, Data Analysis.

Clubs: Biomedical Engineering Society, Tau Beta Pi, 3D Printing Working Group, Penny Harvest Fundraiser.