Brandon M. Kim

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EDUCATION

New York University, Tandon School of Engineering   *2027*
    Bachelor of Science in Computer Science

EXPERIENCE

Research Intern - *University of Maryland, College Park*   *May - Sep 2022*
- Independently designed an algorithm for area exploration for a robotic swarm, based on natural pheromonal systems found in ants
- Developed internal tools for projecting light environments and tracking 25 individual robots and using Python and OpenCV
- Implemented algorithms to respond to light through photoresistors on Kilobot hardware using C
- Achieved **14.65% increase** in area coverage as determined through 10 experimental trials

Captain - *FIRST Robotics Competition Team 4099*   *Sep 2020 - Jun 2023*
- Placed **2nd at international FIRST Championships** and 1st at highly-prestigious Indiana Robotics Invitational competition
- Received the Chesapeake Industrial Design Award for simplistic and elegant robot design by pioneering use of CAD modelling in team workflow
- Fabricated **over 400 unique parts** out of polycarbonate and aluminum on a CNC router to enable rapid design iterations
- Managed **$50,000 annual budget** received from corporate grants through extensive budgeting
- Successfully coordinated remote workflow during the COVID-19 pandemic, ensuring seamless collaboration while maintaining social distancing measures

PROJECTS

Product Designer - *SourceAmerica IDEATE Design Challenge*   *Nov 2021 - Mar 2022*
- Developed an assistive technology for a client with limited fine motor skills, whose workplace required him to place labels of bars of soap
- Tested and **iterated on 3 prototypes** using 3D printing and woodworking tools, finalizing on a system of hand-powered rollers to crease labels
- **Improved accuracy by 52.55%** for soap label placement through empathic design and adjusting to client's specific abilities

Founder - *FalconCamps*   *Apr 2020 - Aug 2022*
- Led 4-week virtual instruction programs in robotics design, reaching **100+ middle- to high-school students** nationwide and achieving a **4.23/5 rating in efficacy of teaching**
- Designed beginner and intermediate curricula encompassing basic CAD, creative problem-solving, and practical techniques for building and programming robots
- Provided personalized one-on-one teaching and mentorship to a rookie team from an underprivileged community in California, fostering their growth for future seasons

TECHNICAL SKILLS

LANGUAGES: Java, Kotlin, Python, JavaScript, C, C++, HTML, CSS
LIBRARIES: OpenCV, React, NextJS, Tailwind
MACHINING: SolidWorks, Fusion 360, Onshape, CNC routing, 3D printing