Taliyah Huang

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Education

Johns Hopkins University — Baltimore, MD
B.S. Computer Science, B.S. Biomedical Engineering — 2022 - 2026
Minor in Robotics
Relevant Courses: Intermediate Programming, Computer System Fundamentals, Data Structures, Mathematical Foundations of Computer Science, Biological Models & Simulations, Nonlinear Dynamics of Biological Systems, Linear Signals & Systems, Systems & Controls, Computational Cardiology, Biomedical Data Science, Biomedical Engineering Design Team

Experience

Undergraduate Researcher — January 2025 - Present
Dr. Jeremy Brown Haptics and Medical Robotics (HAMR) Lab at Johns Hopkins University
- Project 1: Developing hardware to monitor stroke rehabilitation (electronics, C++ programming, CAD/3D printing)
- Project 2: Computational modeling and conducting user studies to understand human perception of stiffness (Matlab)

Clinical Development Engineering Intern — June - August 2024
Moon Surgical
- Co-authored 510(k) FDA submission protocol and paperwork for **Maestro surgical robotic** assistant's advanced feature ScoPilot
- Conducted design validation usability studies with 15 surgeons, including 4 human cadaver labs
- Interviewed 20 clinicians to explore prioritization of future applications of Maestro and ScoPilot
- Developed and 3D-printed a **unique interactive demo and training game** for Maestro's commercial launch
- Designed and casted a **custom gynecologic model** for the uterine manipulator project

Design Team Leader and Project Manager — January 2024 - Present
Johns Hopkins Biomedical Engineering
- Selected to lead a team of 8 undergrad students in developing a device to **optimize lung cryobiopsy** via standard design controls practice
- Responsible for **mechanical design**, CAD and 3D printing of prototypes, meeting logistics, and quality checking of documentation
- Observed the **Ion robotic bronchoscope** and interviewed pulmonologists, nurses, and pathologists at the Johns Hopkins Hospital
- Shadowed and analyzed multiple minimally-invasive **Da Vinci robotic surgeries** at the Johns Hopkins Bayview Medical Center

User Interface and Experience Designer — May 2023 - December 2023
Quest2Learn
- Conducted user interviews to understand root problems in laboratory science education
- Programmed Streamlit **Python web application** for dermatology education (Derm Discovery)
- Designed an **app interface in Figma** for lab skills development tool featuring AR and AI (Quest2Learn AR + Lab Co-Pilot)

Undergraduate Researcher — January 2023 - December 2023
Dr. Chen Li Terradynamics Lab at Johns Hopkins University
- Use **Python and Matlab** to analyze climbing mechanism of mountain goats and humans for model robot development
- Work cross-functionally with PhD students of different disciplines and give weekly presentations

Personal Projects

Custom GamePigeon Games (Javascript, HTML, CSS, Arduino) (https://customgpgames.com)
- Built a site to play iMessage GamePigeon Word Hunt and Anagrams with greater customization, including more foreign languages, letter selection, game arrangements, timing, etc. for Android and laptop users as well as pro-gamers to enjoy **(Phaser.js, Tailwind.css)**
- Also explored the potential of building bots to excel at Word Hunt, Anagrams, and Darts **(Python, Arduino)**

Mouseky - Unique Keyboard Designed and Developed from Scratch (https://bit.ly/mouseky)
- Soldered and wrote custom firmware for a one-of-a-kind, split, wireless keyboard with an integrated mouse
- CAD and 3D printed creative keyboard housing to professionally package the Arduino electronics and keyswitches

BobaWay (Python, HTML, CSS, Javascript) (https://bobaway.org)
- Created English to Taiwanese language translator to help other Taiwanese-American kids out there with immigrant parents
- Web app works on any device, translations come with audio for learning pronunciation of an unwritten language **(Python Flask)**
- Added Tai-Ping and Typewanese audio keyboards for learning romanized Taiwanese **(Python Flask)**
- Interviewed and published on Taiwan Plus, World Journal, Radio Taiwan International, Talking Taiwan, and more

Skills

- CAD/3D Design/Animation (Onshape/Blender/Solidworks)
- Programming (Python/C++/MATLAB/Java)
- Web Development (HTML/CSS/JS/Wix/Squarespace)
- Electronics Prototyping (Arduino)
- Graphic Design (Canva/Figma/Photoshop)
- Video Editing (HitFilm/CapCut/DaVinci Resolve)
- Foreign Languages (Mandarin/Japanese/Taiwanese)

Awards

A. James Clark Scholar (2022) - $100,000 merit
JHU Whiting School of Engineering

Charles Schwab Scholarship Award (2022) - $10,000 merit
Professional BusinessWomen of California

Senior Innovator Award & Innovation Diploma (2022)
Design Tech High School