

Jiahua (William) Yang

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Education

Texas A&M University – Major in Computer Engineering

August 2021 - Current

Skills

Languages: Python, C++, PSQL/SQL, Java, JavaScript, HTML/CSS

Software/OS: MongoDB, Flask, React, Nodejs, Git, Ubuntu, Linux, Windows

Hardware: Raspberry Pi, Arduino, Oscilloscope, Multimeter

Experience

Student Research Assistant, Texas A&M University – College Station, TX

Jan 2021 - Aug 2021

- Acknowledged in published research article: *Tuchaa E., Endres V., Jones B., Shankar S., Klemashevich C., Sun Y., Wu C.S. Deletion of ghrelin alters tryptophan metabolism and exacerbates experimental ulcerative colitis in aged mice. Exp. Biol. Med. 2022;247:1558–1569. doi: 10.1177/15353702221110647.*
- Synthesized and analyzed time-sensitive data from mice, collaborating in the identification of correlations between ghrelin-levels and behavioral responses.
- Maintained and calibrated lab equipment, ensuring compliance with safety and ethical guidelines for lab cleanliness and animal handling for dozens of trials.
- Performed over 20 PCR experiments, increasing throughput by 60+ hours.

Projects

Electromagnetic Workbench Robot

GitHub

- Developed real-time image-processing software on Raspberry Pi using Python, automating workplace scrap identification, picking, and disposal to a designated location with over 90% accuracy.
- Designed and constructed a custom, three-part aluminum robot featuring servo motors and a camera, enabling precise, 270° movement for full workbench coverage.
- Implemented safety protocols and optimized hardware to reduce power consumption by over 20%, ensuring personnel protection and preventing damage to sensitive equipment during development.

Sensor-based Lawn-care System

GitHub (Hardware) , GitHub (UI)

- Led an interdisciplinary team through a Waterfall-style project in the development of soil-moisture-based, dynamic irrigation system, resulting in up to 40% water savings (C++, Python Arduino).
- Created a web application for real-time monitoring with user overrides and customization, enabling scalability for up to 8 unique zones (Python, Flask).
- Developed a data analytics tool to visualize collected moisture data trends and offer suggestions for further water conservation in each zone (Python).

Custom POS Website

GitHub

- Led a full-stack Agile Scrum team to build a custom POS system for ordering and stock management, improving operational efficiency by up to 20% (Java, JavaScript, React, Node.js, Git, HTML, CSS).
- Secured customer and business data with AWS databases, minimizing data security risks by limiting access and ensuring compliance with industry standards. (PSQL, MongoDB)
- Developed a simulation of real-world customer data to identify key design constraints and behavioral patterns, resulting in up to a 30% increase in customers on peak days (Python).

Additional

Languages: Fluent in English, Mandarin Chinese

Other: US Citizenship