# Bronson Ianno

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Pittsburgh, PA

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### Education:

The Pennsylvania State University – University Park

BS Computer Science 2023

GPA 3.86 Cum Laude

Minor in Computer Engineering

Minor in Mathematics

### Activities:

PSU Robotics Club 2019- 2021

HackPSU organizer 2022- 2023

### Skills:

Python, Java, JavaScript, TypeScript, C, C++, SQL, HTML, CSS, MATLAB, C#

Frameworks:   
AWS, React, React Native, Expo, Django, .Net 9, .Net WPF, Asp.Net Core, Flask, Node.js, Expo, ROS2

### Tools:

Figma, SolidWorks, FreeCad, Multisim, Postman, Insomnia, Visual Studio, Wireshark, DB beaver, Git, VS Code, AWS CLI

### Coursework:

Applied Computational Methods

Database Management Systems

Linux System Programming

Front-End Web Design

API Design and Development

### Certifications:

AWS Cloud Practitioner

Meta Back-End Developer

Meta Front-End Developer

### References

**Thomas Kolb**, President, Asset Management Group, Enghouse Systems, *thomas.kolb@enghouse.com*

**John Choi**, Research Engineer, Carnegie Mellon University, *johnchoi@andrew.cmu.edu*

**Jeffrey Scott**, CEO and Founder, IA Motion*, jeff@iamotion.net*

## Work Experience:

Automation Engineer @ IA Motion Products| Murrysville, PA| Jan 2024 - Present

* Manage distribution of automation products
* Design and develop automation solutions based on customer requirements.
* Work with the development of software for motors and PLCs.

Software Engineering Intern @ Carnegie Robotics| Pittsburgh, PA| Jan 2022–Aug 2022

* Collaborated with a development team to assist in design, development, and testing of Robotics Software Applications
* Developed Python scripts to assess camera systems through computer vision testing. Focused on OpenCV image work.
* Joined Robotics and Imaging Integration team to implement feature updates and enhancements to codebase for Robot Camera Payload system.

## Projects:

**Full Stack Fitness App** ***(Expo, .NET 9, MySQL, AWS, BLE IMU)***| Personal Study – Project

A connected fitness app featuring real-time sensor streaming, user-generated content, responsive cross-platform UI, and social interaction. Built with an **Expo** front-end and a .**NET 9** (**ASP.NET Core**) back-end using **MySQL**, with planned deployment to **AWS**.

* **App Development | Key Contributions**
  + Developed a cross-platform mobile app using **React Native + TypeScript** in **Expo**, with adaptive UI powered by **Tamagui** and responsive sizing techniques.
  + Designed a modular **JWT authentication system** supporting secure, stateless API interactions.
  + Engineered a scalable **state management architecture** using layered React Contexts for local/global control across tabs and components.
  + Integrated **.NET 9 RESTful API** with secure CRUD operations and persistent user data via **MySQL**.
  + Used **Axios, React Query, and RxJS** to enable efficient data fetching, live updates, and backend syncing.
  + Implemented dynamic, form-driven content using **Formik** and **Yup** with **modal**-based interaction patterns for seamless user input and validation.
  + Designed and prototyped UX flows in **Figma**, building a tabbed navigation system across five core app areas (Home, Workout, Planning, Community, Settings).
* **Back-End Development | Key Contributions**
  + Designed a scalable **MySQL** database schema using **Entity** **Framework** **Core**, supporting user authentication, profiles, workout planning, and activity tracking with flexibility for future platform migration.
  + Developed a **modular RESTful API** using the **ASP.NET Core MVC framework**, with multiple controllers handling categorized CRUD operations across the app’s core features.
  + Created structured **DTO models** to validate and sanitize incoming requests, ensuring consistent and secure data flow between client and server.
  + Integrated **Swagger UI middleware** to auto-generate API documentation and support streamlined developer testing and iteration.
* **Sensor Integration and Sensor Fusion | Key Contributions**
  + Calibrated **BLE IMU** sensor using **Python** with **WitMotion** **SDK** and **Bleak** for BLE connectivity, performing sensor fusion via **PyFilter** and **IMUFusion** to extract accurate orientation and motion data.
  + Built a controlled calibration environment using an **Animatics M5 Smart Motor** on a linear actuator to generate repeatable reference motion for fusion accuracy. Developed Smart Motor code using **Animatics SDE**.
  + Reverse engineered **Python**-based calibration and fusion logic into TypeScript, enabling native real-time motion analysis directly within the Expo app environment.

**Django-Based Web API System** | Personal Study

* Built **Back-End API** using **Django** to control database operations management
* Evaluated **REST** **API** using Insomnia **REST** client for performance and accuracy.
* Implemented user **authentication** system with **unit** **testing** for reliability