Jack H. Ursillo

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Education

Santa Clara University — Santa Clara, CA
Bachelor of Science in Computer Science and Computer Engineering — *Expected Graduation: May 2024*

Archbishop Mitty High School — San Jose, CA
High School Diploma — *Aug. 2016 – May 2020*

Experience

Research Assistant - HiveSpy — February 2022 – Present
Santa Clara University — *Santa Clara, CA*

- Worked on finding ways to design beehives to make them more efficient and safer for bees
- Analyzed data from beehives using **Arduino Boards** and relayed the data to the **cloud**
- Designed sensors to detect the weight of each frame as it reached maximum capacity

Software Programming Instructor — January 2022 – June 2022
Whizara — *San Jose, CA*

- Taught programming to kids and helped them to comprehend the fundamentals of coding
- Worked with different age groups and helped them to create interactive projects using elements of code
- Fostered a positive learning environment and inspired kids to learn

Projects

Realistic Lanterns Mod | *Java, Gradle, Forge* — June 2022

- Developed a minecraft mod that utilizes **raytracing** and adds a dynamic light source to the game
- Uses a **state machine** to update the lantern's state as time passes in the world
- Implemented using **Java** and different minecraft libraries and runs using **Gradle** and **Forge**

SF Hacks | *HTML, Firebase, Swift, ExpressJS, Discord API* — March 2021

- Created an app that would allow Esports Organizations to draft players in a more efficient manner
- Used Swift and **Google Firebase** to manage authentication and used **ExpressJS** to allow the app to communicate with a Discord Bot
- Implemented a Discord Bot to place players into their respective teams according to specified criteria

Sparse Matrix | *C, Data Structures, AI* — Sept. 2020 – Dec. 2020

- Developed a program in **C** capable of running arithmetic processes between multiple user/**AI** created matrices
- Wrote a subprogram capable of **encrypting** and decrypting information and storing simulation data in files

Ping Pong Launcher | *Physics, Breadboarding, C* — Sept. 2020 – Dec. 2020

- Designed and coded a multicomponent machine capable of launching objects in a parabolic motion
- Enabled trajectory adjustment to accommodate variations in target distance and height

Relevant Coursework

Computer Science: Data Structures, Advanced Algorithms, Embedded Systems, Fundamentals of Algorithmic Logic, Bitwise Logic and Encryption
Computer Engineering: Advanced Circuits, Introduction to Logic Design, Circuits and Logic Gates, Introduction to Computer Engineering, Chip Design
Math: Calculus Series, Differential Equations, Discrete Mathematics, Statistics
Science: Kinematics, Gravitation, Harmonic Motion, Electricity and Magnetism, Circuits

Technical Skills

Languages: Java, C/C++/C#, JavaScript, HTML/CSS, Python, Assembly, Verilog
Frameworks: Maven, Discord API, React, Node.js, Flutter, Swift, Forge, Gradle
Developer Tools: Git/Github, Google Cloud Platform, VS Code, Visual Studio, IntelliJ, Eclipse, PyCharm, Unreal Engine, Unity, Blender
Technologies: Arduino/Breadboarding, Operating Systems, Autodesk/Fusion 360, FPGA, MATLAB