# 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

WhizaraTaught 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

San Jose, CA

- 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

- $\bullet \ \ {\rm Developed} \ \ {\rm a} \ \ {\rm program} \ \ {\rm in} \ \ {\bf C} \ \ {\rm capable} \ \ {\rm of} \ \ {\rm running} \ \ {\rm arithmetic} \ \ {\rm processes} \ \ {\rm between} \ \ {\rm multiple} \ \ {\rm user}/{\bf AI} \ \ {\rm created} \ \ {\rm matrices}$
- 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