

# Tyler James Haina Ikehara

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(808) 265-5928

Research interests include Wireless Communications, Electromagnetics, and RF Circuits. Passionate about learning and teaching others about STEM related topics.

## Education

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### Doctor of Philosophy: Electrical Engineering

Graduation Year: 2027

*Future Leader Fellow* | Advisor: Dr. Thomas Marzetta

New York University Tandon School of Engineering – Brooklyn, NY

Relevant Classwork: Linear Systems Approach to Wave Propagation, Probability and Stochastic Processes, Applied Matrix Theory, Machine Learning, Optimization Methods, Digital Signal Processing, Digital Communications, Electromagnetics

GPA: 3.926

### Bachelor of Science: Electrical Engineering, Minor – Music

September 2018 to June 2022

*Summa Cum Laude* / *Electrical and Computer Engineering Academic Excellence Award*

Santa Clara University – Santa Clara, CA

Relevant Classwork: Microwave Circuit Analysis, Intro to Communication Systems, Electromagnetics I&II, Linear Algebra, Probability and Statistics, Multivariable Calculus

GPA: 3.976

## Research Experience

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### Research Project | Advisor: Dr. Thomas Marzetta

September 2022 to Present

New York University Tandon School of Engineering – Brooklyn, NY

Researched and proposed a novel electromagnetic feedback receiver array antenna system inspired by the human cochlea

Used linear system theory to use impedance matrix calculations to understand the linear behavior of the proposed system

### Research Intern

June 2021 to August 2021

Naval Information Warfare Center Pacific – San Diego, CA

Investigated the effectiveness of Direct Antenna Modulation and Cryocooled circuit components for High Frequency antenna systems

Part of the Naval Research Enterprise Internship Program

### Senior Design Project | Advisor: Dr. Kurt Schab

August 2021 to June 2022

Santa Clara University – Santa Clara, CA

Constructed a Radio Telescope using a Software Defined Radio as the main data processing component

Designed a Microstrip Bandpass Filter for the Radio Astronomy frequency band of 1420 MHz

### Guided Research | Advisor: Dr. Kurt Schab

July 2020 to August 2021

Santa Clara University – Santa Clara, CA

Researched Software Defined Radios and gained experience using GNU Radio

Implemented a MATLAB script to compare the Signal to Noise Ratio for antennas with varying efficiency and Q-factor

## Work Experience

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### Peer Educator

March 2022 to June 2022

Santa Clara University – Santa Clara, CA

Assisted with the Lab section of a Digital Signal Processing class

Answered questions that the students had and ensured that their MATLAB codes were completed correctly

### Student Tutor

September 2019 to March 2020

Santa Clara University – Santa Clara, CA

Math Learning Center Peer Tutor – Student Tutoring Program for math at SCU

Ran weekly study groups for students and held one on one tutoring sessions

## Skills

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Programming: C/MATLAB/SCPI/SPICE/GNU Radio/Python/LaTeX/ADS/HFSS

Hardware: Microwave Antenna Equipment, Arduino, Soldering, Software Defined Radio, Analog Computers

## Awards/Achievements

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SCU Electrical and Computer Engineering Academic Excellence Award

June 2022

SCU Senior Design Best in Session Presentation

June 2022

Tau Beta Pi – California Charter Inductee

November 2020

SCU Dean's List

2018-2021 School Years