

Taylor J. Larrechea

PHYSICIST · COMPUTER SCIENTIST · PROBLEM SOLVER

☎ (970) 366-2551 | ✉ tjlarrechea@gmail.com | 🏠 www.tjlarrechea.com | 🖱 QuantumCompiler | 🔗 [tjlarrechea](https://www.linkedin.com/in/tjlarrechea)

Projects

Celestial Bodies In Space - 📄

DEVELOPER

- Through the use of Python and numerical methods, the equations of motion for a ternary star system were successfully solved and plotted, providing valuable insights into the dynamics of the system.

Coupled Oscillator System - 📄

DEVELOPER

- Constructed and analyzed a coupled oscillator system, utilizing Python and numerical methods to solve nonlinear, coupled ordinary differential equations and generate motion plots for pendulums.

Formulator Pro - 📄

DEVELOPER

- Implemented and maintained a cross-platform recipe generation application for Mesa Lavender Farms, leveraging programming skills, utilizing the Electron JS framework, and optimizing source code to enhance user experience.

Fourier Analysis of Cat Sounds

PRESENTER AND AUTHOR

- Presented the Fourier analysis of a cat purring and meowing. Project was purely for academic purposes.

Mathematical Model of Deer Population

PRESENTER AND AUTHOR

- Presented a mathematical model that was used to estimate the deer population due to hunters over the next decade. The mathematical model took into account multiple variables in an attempt at presenting the most accurate model possible.

Quantum Parameter Estimation

PRESENTER AND AUTHOR

- Engaged in theoretical research in Quantum Parameter estimation, exploring improvement strategies and techniques, documenting progress and findings in technical reports using LaTeX, and presenting outcomes through a seminar.

RSA - 📄

DEVELOPER

- Developed a GUI program with the use of PyQt6 that demonstrates the process of RSA encryption and decryption.