

# Looi Shen Wei Brendan

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I am a recent graduate in Applied Mathematics achieved at Colorado State University. I have a passion for mathematics and programming, specifically where mathematical concepts are used to improve and optimize a progressively digital world.

## Education

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- **Colorado State University** **Fort Collins, CO**  
*Bachelor of Science in Mathematics, Concentration in Applied Mathematics – Computer Science* *Graduated May 2021*
  - **Relevant Mathematics Coursework:** Fourier and Wavelet Analysis, Numerical Analysis, Abstract Algebra, Ordinary/Partial Differential Equations, Advanced Calculus of One Variable, Projects in Applied Mathematics
  - **Relevant Computer Science Coursework:** Software Development, Information and Coding Theory, Post-Quantum Cryptography, Mathematics of Information Security, Data Structures, Discrete Structures

## Technical Skills

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- **Programming Languages, Frameworks & Tools:**
  - Languages: Bash, **C**, **C#**, **C++**, **mySQL**, Matlab, **Maple**, Java, JavaScript, **Python**, **LaTeX**, Haskell, Ada 95, R, PHP
  - Frameworks & Tools: Android API, Sagemath, Jupyter, Git, WSL2, Powershell, EC & DLP cryptosystems
- **Mathematical Skills:**
  - Able to recognize shifting priorities within theoretical problems and their applications
  - Advanced ability to utilize software to solve problems within the scope of mathematics
  - Quickly and efficiently apply different concepts within mathematics to real-world problems

## Work Experience

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- **Software Engineer** **Kuala Lumpur, Malaysia**  
*Stampede Solution – C# Volare Development Team* *July 2021 – Present*
  - Improved and optimized Volare, the main FinTech product, to decrease workflow inefficiencies for users
  - Identified and mitigated multiple complex, critical flaws within the full product stack
  - Worked in C# with mySQL, Vicidial, Ozeki, bash, PHP and several internal libraries

## Projects & Research Experience

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- **Clebsch Map Modeling of Cubic Surfaces** **Colorado State University**  
*Department of Mathematics – Dr. Anton Betten* *Jan 2020 – May 2020*
  - Developed novel solutions for optimizations of non-trivial implicit surface modeling
  - Probing surface representation spectra for real world applications including cryptography and tessellation
  - Worked in Maple, MATLAB, Python, and C++
- **Visualization and Quantization of Implicit Surfaces** **Colorado State University**  
*Department of Mathematics – Dr. Anton Betten* *Aug 2020 – Dec 2020*
  - Exploration of exotic mapping methodologies for physical data visualization and surface property characterization
  - Optimized tools for topological analysis of compute heavy implicit surfaces
  - Applied ideas from Coding Theory, Differential Geometry and Group Theory
- **Comparing Fast Fourier Transform Algorithms for Beamforming** **Colorado State University**  
*Department of Mathematics* *Feb 2021 – April 2021*
  - Researching the most efficient FFT Algorithms in real world applications of beamforming as used in 5G and WiFi 6.
  - Working with peers in electrical engineering to apply objectives directly to hardware