

Shen Wei Brendan Looi

10 Lorong Kota Raja, Taman Bukit Seputeh – WP Kuala Lumpur – Malaysia
☎ + (60) 16-661 1838 • ✉ shenweilooi@gmail.com

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

- **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

- **Programming Languages, Frameworks & Tools:**
 - Languages: Bash, C, C#, C++, **mySQL**, Matlab, **Maple**, Java, JavaScript, **Python**, **LaTeX**, Haskell, Ada 95, R
 - Frameworks & Tools: Android API, Sagemath, Jupyter, Git, Elliptic Curve & Discrete Logarithmic Problem 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

- **Software Engineer** **Kuala Lumpur, Malaysia**
Stampede Solution – C# Volare Development Team *July 2021 – Present*
 - Designed a performance modeling library to mock enterprise-grade RDMA behavior without dedicated hardware
 - Proved feasibility of an implementation method that would drastically reduce startup cost for new customers
 - Worked in C with InfiniBand and NSK to invisibly apply kernel-mode modifications to existing benchmarks and applications

Research Experience

- **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