MINSI SUNG

Software Engineer with 4 Years Experience on CADCAM and Computer Graphics Software Development

mssungtwkr@gmail.com https://minsisung.github.io/MinsiSung-PersonalWebsite/
(778)3169048 https://www.linkedin.com/in/minsi-sung

EXPERIENCE

R&D Engineer II
ECAD Team, Ansys

Jun 2021 –Present | Vancouver, Canada

- Deliver robust software design in ECAD team focusing on GUI design using **MFC** and on mesh implementation for HFSS 3D Layout product.
- Perform products bug verification, maintenance, release testing and documentation.

Software Engineer Intern
Lumerical, Ansys

Feb 2021 – May 2021 | Vancouver, Canada

- Implemented graphics methods using **Parasolid** to convert 3D primitives into 2D polygons for simulation optimization.
- Involved in the agile development, bug verification and maintenance of products.

Research Assistant
CAD/CAM Lab, University of British Columbia

Sept 2018 – Jan 2021 | Vancouver, Canada

- Constructed a collision detection algorithm using voxel meshing that increases efficiency by 20% for grouping validation of different machine tool configurations.
- Built a user-friendly automatic components grouping system to generate kinematic chains of multi-axis machine tools for machining simulation in **C++** using **Qt**.
- Developed an environment to read STL files and kinematic chains in URDF of machine tools for machine movements simulation with **OpenGL**.

Intern
Industrial Technology Research Institute (ITRI)

July 2018 – August 2018 | Nantou, Taiwan

- Constructed an identification algorithm for the quality of machining path from CAM by calculating feedrate limits and by anticipating acceleration configurations.
- Created features using **Matlab** for visualizing normal errors between position command and position feedback on the machining surface for easier observation.

PROJECTS

Boolean union operation computing speed improvements using Boost Polygon
Sept 2021 – Oct 2021

- Researched and investigated the feasibility of implementing the union operation with **Boost Polygon** to resolve the computing bottleneck for large IC layout design files.
- Achieved 20+ times faster results and got employed by different products.

Remesher with Four Processes for Large Triangular Mesh Models (Final project of CPSC 524 Computer Graphics: Modelling)
Feb 2019 – Jun 2019

- Completed the remesh process with a user friendly API in C++ by iterating through geometry models for mesh refinement, edge collapse, edge flipping and smoothing.

SKILLS

Programming Languages
C++, C#, Python, Matlab , Java, HTML, CSS, Javascript

Tools
OpenGL, Boost Polygon, Jira, Parasolid, MFC, Visual Studio, Qt, Git, Solidworks

LEADERSHIP

President
Taiwanese Graduate Student Association in Vancouver

Feb 2020 –Feb 2021
Vancouver, Canada

Captain
Baseball Team in Mechanical Engineering Department

July 2016 – July 2017
Tainan, Taiwan

HOBBIES

Baseball | Photography | Biking

LANGUAGES

Mandarin(Native)
English
Korean

EDUCATION

MASc in Mechanical Engineering
University of British Columbia, Canada

Sept 2018 – Jan 2021

BEng in Mechanical Engineering
National Cheng Kung University

Sept 2013 – Jan 2018