MINSI SUNG

Software Engineer with 3 Years Experience on CADCAM and Computer Graphics Software Development

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🔗 https://www.linkedin.com/in/minsi-sung

EXPERIENCE

Research Assistant
CAD/CAM Lab at University of British Columbia

📅 Sept 2018 – Ongoing 📍 Vancouver, Canada

- Built a user-friendly component recognition system to export corresponding kinematic chains of multi-axis machine tools for machining simulation in C++.
- Constructed a collision detection algorithm using the voxelization that increased efficiency 20% for recognition validation of different multi-axis machine tool configurations.
- Developed an environment to read assembly files of different configurations of machine tools and utilized OpenGL to simulate the motion of multi-axis machine tools according to the kinematic chain.

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 federate limits and by anticipating acceleration configurations.
- Create Matlab visualization on normal errors between position command and position feedback on the machining surface for easier observation.

Research Assistant
National Cheng Kung University

📅 July 2017 – Jan 2018 📍 Tainan, Taiwan

- Cooperated with Tech Coordinate Co., Ltd to validate the postprocess that use the company-developed numerical solution with the analytical solution derived from coordinate transformations.
- Implemented a virtual machining environment in JAVA to read G-Code and CAD models of 5-axis machine tools designed in Solidworks to detect collisions.

PROJECTS

Construct Transfer Learning Model for COVID-19 classifier (Final project of CPSC 340 Machine Learning and Data Mining)

📅 Jan 2020 – Apr 2020

- Used Pytorch to Implement transfer learning that uses ResNet18 and VGG16 as pre-trained models for constructing multi-class classifiers to classify chest X-ray images into three classes; COVID-19, Pneumonia, and Normal.
- Got 90% average classification accuracy using VGG16 with fine-tuning the last layer.

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

📅 Feb 2019 – Jun 2019

- Iterated through geometry models for mesh refinement, edge collapse, edge flipping and smoothing to complete the remesh process with a user friendly API in C++ following the paper "A Remeshing Approach to Multiresolution Modeling".

SKILLS

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

Tools
Qt, Git, Visual Studio, NX, ANSYS-Flent, Solidworks

LEADERSHIP

President
Taiwanese Graduate Student Association in Vancouver

📅 Feb 2020 – Ongoing
📍 Vancouver, Canada

Captain
Baseball Team in Mechanical Engineering Department

📅 July 2016 – July 2017
📍 Tainan, Taiwan

HOBBIES

Baseball   Photography   Cycling

LANGUAGES

Mandarin(Native) ●●●●
English ●●●●
Korean ●●○○

EDUCATION

MASc in Mechanical Engineering
University of British Columbia, Canada

📅 Sept 2018 – May 2021 (Expected)

BEng in Mechanical Engineering
National Cheng Kung University

📅 Sept 2013 – Jan 2018