

**Junming Chen**  
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## EDUCATION

**Northeastern University,**  
***Bachelor in Software Engineering***

Shenyang, China  
2020-Present

- GPA: 91.7/100; Ranking: Top 1% of 398
- Advised by Prof. [Guibing Guo](#)

## RESEARCH EXPERIENCE

***University of Alberta***

Edmonton, Canada  
09/2022-Present

***Research Assistant, Supervisor: Prof. [Li Cheng](#)***

Project: 3D Object Rigging from a Single Image

- Render a skeleton prediction approach by utilizing the deep implicit functions. Build an automated pipeline to tackle the entire process of 3D reconstruction, rigging, and animation, all from single-view RGB images.
- Inspired by NeRF, we are making a great effort to adapt our two-stages network for an end-to-end pipeline.
- Adopt the directly end-to-end method to predict the 6D pose estimation from the single-view RGB images, which will facilitate the 3D reconstruction process.

***Northeastern University***

Shenyang, China  
03/2022-07/2022

***Research Assistant, Supervisor: Prof. [Guibing Guo](#)***

Project: Short Video Recommendation System

- Predict users' behavior based on multi-modal features, like user interaction, and visual embeddings.
- Feature Engineering. Extract the high-order visual features like face features to enhance our model.

Project: PyTorch Model transplant (collaborate with Huawei Corporation)

- Reproduce a new image classification model named [SPACH](#), and transplant it from GPU to Huawei NPU.
- Construct and run training and inference scripts for both GPU and NPU on remote Linux servers.
- Achieve the gold quality medal from Huawei Corporation to honor my work on SPACH's transplant.

## COMPETITION & OPEN-SOURCE PROJECT

**[Kaggle](#)**

- Kaggle Notebooks Expert; Ranking: 1,151 / 220,449 (worldwide)

Competition(solo): Sorghum-100 Cultivar Identification-FGVC 9

05/2022

- Rank: 28/221. Win silver medal notebook from my open-source PyTorch baseline of this competition.
- Identify similar sorghum cultivars by RGB pictures of dense sorghum plants. Pre-process images by contrast limited AHE to avoid the impact of the over-exposure and under-exposure.
- Experiments on K-fold cross-validation and test time augmentation to apply ensemble learning based on different models derived from different folds of the sorghum dataset.

Competition(solo): Happy Whale-Whale and Dolphin Identification

04/2022

- Rank: 303/1588. Win silver medal notebook from my open-source PyTorch baseline of this competition.
- Identify the whale individual only by pictures of their tails, fins, or heads. Apply U-Net to extract the fins out of the noisy background and thus make a purer dataset for this competition.

**[Github](#)**

Project: PyTorch Model transplant: SPACH

03/2022

- Contribute the Huawei NPU version implement of a PyTorch-based model named SPACH, to the official repository, including training and inference scripts.

## SKILLS

- Programming Skills: Python (PyTorch, NumPy, Pandas, OpenCV), Java, C, Git, Shell