

# 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

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

09/2022-Present

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.
- Design a neural network to extract the canonical feature from different views of an identical 3D model, which is pretrained on rendered ShapeNet.

Northeastern University

Shenyang, China

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

03/2022-07/2022

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