As a support software engineer, responsible for research and engineering work of Computer Vision and Machine Learning.

* Worked on Image Quality Assessment (IQA) for Compensation Super Resolution Network (CSRNet). Evaluated different models trained with different training data with different levels of Gaussian Blurring. Helped the team select the best model based on objective analysis like PSNR, SSIM…etc
* Trained different kinds of architecture for CSRNet and created a tool for visual comparison of different models and bicubic output.
* Found the best running time per frame of CSRNet models using different batch size on NPU. Compared the running time between using batches and using small patches of each image.
* Evaluated the blurring metric and found the relation of blurring metric and different CSRNet models to help select the best model for a corresponding value from blurring metric which can provide a better visual quality based on input videos.
* Investigated more objective Image Quality Assessment algorithms like VIF, Netflix VMAF, ringing metric, blocking metric to best match the visual experience of users.
* Fixed the issue of iVision engine (the app for verifying the pipeline of each model) caused by the datatype conversion. Verified the correctness of the output images in iVision and made sure the pipeline in iVision is correct on NPU and ShaderNN for all models. (ESPGAN, CSRNet, ESPCN and CSRNN) which further helped the team to deploy and test the new models more efficiently.
* Investigated on Image Enhancement method like Contrast Limited Histogram Equalization to increase the visual quality of Super Resolution.
* In charge of the model conversion from different training platform to the format that is needed by Mate20 and Mate10. Tensorflow and Caffe to Cambricon (for NPU) and bin file (for ShaderNN).
* Worked with Jonathan Kyle on Ensemble Model. Helped Jonathan verified the feasibility of the proposed method on synthetic dataset for regression and classification. Contributed to the literature review of the paper of Ensemble Model.