# **Kindred AI**

* Surveyed state-of-the-art physics engines such as PhysX and Bullet for collision detection during motion planning of robotic manipulators
* Developed an MVP in C++ to perform collision queries on concave mesh geometries leveraging the GPU acceleration provided by the PhysX library
* Benchmarked performance with FCL as baseline showcasing a 4-4000x speedup for batched collision queries
* Software architect for integration of the MVP with internal motion planning stack

# **Diffusion Model Inference on Edge**

* Investigated diffusion models for image generation on Nvidia Jetson Nano and Android smartphones.
* Implemented pipelines for FP16 quantization and tensor fusion using ONNX runtime and TensorRT
* Generated high fidelity images on edge devices through diffusion model inference under 90 seconds