My name is Bing Han, and I am a Ph.D. candidate in Computer Science at Stony Brook University. My research interests lie in GPU performance optimization and ML/AI systems, specifically in making GPU job sharing more efficient in cloud servers.

My research, conducted under the guidance of Dr. Anshul Gandhi and Dr. Zhenhua Liu, focuses on improving GPU job sharing efficiency. In my recent work, accepted at SoCC 2024, I developed predictive models and optimization techniques based on GPU spatial sharing framework, which reduced completion time by 36% and increased cloud system throughput by 1.5x. In addition, I have modified the Kubernetes scheduler framework to further optimize GPU sharing for machine learning tasks, demonstrating my ability to work on large-scale system design. Research slides - https://bhan.im/static/publications/slides/kace_socc_pres.pdf.

In my role as a Data Engineer Intern at Cathay Financial Holdings, I developed scalable machine learning pipelines using Hadoop, Spark, and Kafka microservices. By leveraging Docker, I ensured efficient distributed computing for high-volume data processing. I also implemented an automation pipeline for configuration tuning, which reduced setup time by 50% in Proof-of-Concept environments.

Beyond internships, I have worked on impactful projects that showcase my technical skills. For instance:

- **Find Yourbike**: Built a shared bike live tracking website with MongoDB, Flask, React, and Nginx, integrating Google Maps API for live location detection and navigation.
- **AICUP 2021**: Trained BERT-based models for medical dialogue analysis, achieving a 92% accuracy rate in patient risk assessments through data augmentation and advanced NLP techniques.

I am eager to bring my skills in Python, C++, Kubernetes, and machine learning frameworks to collaborate CloudFlare's engineering team. I am confident that this internship will not only contribute to my Ph.D. dissertation but also foster the kind of innovative work that has historically emerged from your summer internship programs.

I look forward to the opportunity to contribute to your exciting intern opportunities. Please feel free to contact me at (631) 479-9014 or via email at bingshiunhan@gmail.com.

Sincerely,
Bing Han