Sang Yoon Byun

1115 8th Ave. Box #3225, Grinnell, IA 50112-1671 | 82-10-3092-7606 (KR) | 641-260-4020 (US)
bsyiskl@gmail.com | www.linkedin.com/in/sangyoonbyun/ | https://github.com/byunsy

Education

Grinnell College Grinnell, IA

Bachelor of Arts in Computer Science | Minor in Policy Studies Expected May 2022

- GPA: 3.7 / 4.0 | Dean's List (2 Semesters)
- Relevant Coursework: Functional Programming, Imperative Programming, Object-Oriented Programming and Data Structures, Discrete Mathematics, Operating Systems & Parallel Algorithms, Calculus I & II, Applied Statistics, Linear Algebra, Introduction to Artificial Intelligence

Research Experience

Parallel Computing Summer Research Internship Los Alamos, NM

Los Alamos National Laboratory (LANL) Jun – Aug 2020

- Assisted in optimizing HIGRAD, LANL's high-performance computing (HPC) fluid dynamics code (written in Fortran), including porting it to a C/C++ code that effectively utilizes Kokkos and MPI to achieve higher performance parallelism and portability.
- Performed robust and reliable test cases to validate basic functionalities of the code.
- Designed and conducted scalability studies and performance measurements of the code on various HPC architectures (GPU-based and ARM-based) at LANL.

Research Internship Seoul, South Korea

RankingBall Inc. (Innovative Sports / eSports Gaming Platform on Blockchain) Jan – Jul 2018

- Analyzed a collection of whitepapers and business models from different blockchain services.
- Collected and wrangled sports statistical data from MLB, NFL, and NBA Data APIs.
- Assisted in product design for building RankingBall NFL and NBA (minimum viable product).

Independent Projects

More at https://byunsy.github.io/

Machine Learning & Deep Learning

- Lane Detection for Autonomous Vehicles [https://github.com/byunsy/enhanced-lane-detection]
- Deep Learning Retinal Optical Coherence Tomography [https://github.com/byunsy/retinal-oct-classification]
- Deep Learning Pneumonia Classification [https://github.com/byunsy/pneumonia-classification]
- Personalized Facial Recognition [https://github.com/byunsy/face-recognition]
- Face Filters and Stickers [https://github.com/byunsy/face-filter]
- Hand-motion Screen Control using Optical Flow [https://github.com/byunsy/handmotion-control]
- Business Card / Document Textual Content Scanner [https://github.com/byunsy/card-scanner]
- Financial Forecasting using LSTM Network Model [https://github.com/byunsy/financial-forecasting]
- Heart Disease Random-Forest Classifier Model Analysis [https://github.com/byunsy/heart-disease-diagnosis]
- HOG & SVM Digit Recognition [https://github.com/byunsy/digit-recognition]

Additional Work Experiences

International Pre-Orientation Program Mentor Grinnell, IA

Office of International Student Affairs Aug – Dec 2019

- Personally mentored a group of eight international students from different parts of the world.
- Organized and facilitated various insightful events for students throughout the Fall 2019 semester.
- Identified and reached out to individuals who were struggling academically and/or culturally.

Technical Skills: English (Fluent), Korean (Native) | Python, C/C++, Java, TensorFlow, Pandas, NumPy, Matplotlib Django, Django Rest Framework, MongoDB, Express.js, React, Node.js | Basic CUDA, MPI