# Beomsu Kim

*Los Angeles* *bek001@ucsd.edu* *469-818-4342* *Instagram* *Linkedin*

## Skills

## Education

University of California San Diego Sep.2019-Jun.2023
BS CSE: Computer Engineering
ROK National Forestry Cooperative Federation Scholarship Dec.2022-Jun.2023

## Experience

### Junior Developer

- Spring • Java • SQL • MVC • JQuery • Deep Learning • PyTorch • Software Engineering

Fountain Valley **Solomon America** Feb.2024-Now

- Managing and developing solutions for Hyundai and Kia's product quality management system(PQMS) using JQuery, Oracle SQL, and Spring MVC structure on Tomcat
- Collaborating with the senior member to reconstruct a webapp version of the solution
- Preparing to participate in a machine learning project with Hyundai Glovis

### Software Engineer

- HTML • ComputerVision • Machine Learning • Deep Learning • GANs • PyTorch
- Software Engineering

Los Angeles **Mitaa** Sep.2023-Feb.2024

- Built a website for memory clinic
- Managed patient dataset to use SSD to analyze medical images to catch Alzheimer's disease
- Built an appointment management system with **Google Firebase**

### Machine Learning Engineer Intern

- Deep Learning • Machine Learning • TensorFlow • PyTorch • Computer Vision
- Image Augmentation • YOLO

Busan, South Korea **AT Solution** Apr.2022-Jan.2023

- **TensorFlowed** for data engineering at a commercial industry field using **YOLO**
- Generated a model to detect a pattern recognition in an image dataset
- Served as an exhibitor for the company’s booth at CES 2023 in Las Vegas and Collaborate with the team members to convince the potential customer of the products

### Computer Emergency Response Team

- Powershell • SQL • Computer Security

Incheon, South Korea **ROK Marine Corps** Oct.2020-Apr.2022

- Managed military vaccine servers for security updates using linux
- Drilled for a possible security breach situation including hacking mail, ransomware training
- **Powershelled** routine or repetitive works for efficiency using **REST APIs**
- Allocated IPs and controlled access to the networks for security

## Projects

## vktutorial beta version

- Vulkan • Computer Graphics

Jan.2024-Feb.2024

- Dynamic Rendering for code simplicity and Interactive camera
- RenderDoc for Debugging
- Abstraction based on https://vkguide.dev

## Dive into Deep Learning

- Machine Learning • Python • PyTorch • TensorFlow • MxNet • d2l

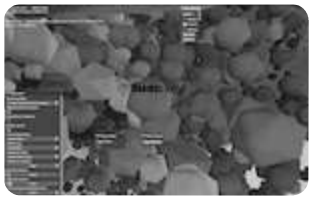
Jul.2023-Oct.2023

- Implemented the concept of machine learing following the guide in *Dive into Machine Learning*
- **Recommender System**, **GANs**, **Transformer**, **Deep FM**
- Colabed for producing immediate output and feed back

## Particle System with subdivision

- Computer Graphics • C/C++ • Multithread • The Forge • Vulkan

Aug.2023-Sep.2023



- Advanced GPU rendering based on TF engine(**AAA**) **Vulkan** and **DirectX** pipeline simulating particle collision responses
- Instanced, indirect, and indirect with compute **shader rendering options** to compare the performance between them
- **LOD** strategy used for performance acceleration

## Ray Tracing and Tone Mapping

- Computer Graphics • C/C++ • Multithread • lldb

Apr.2023-Jul.2023

- Ray tracing renderer with **BVH** and multithread acceleration
- **Importance sampled** for area lights and used GoogleTest
- Several **Tone Mapping** strategies are used

## ETA Predictor

- Machine Learning • Python • Colab • Deep Learning • PyTorch

Apr.2023-May.2023

- Feature engineered based on traffic information of the traffic data set in **Kaggle**
- Used **d2l** library referencing the book Dive into Deep Learning to solve real world problems by analyzing the pattern
- Planning to leverage error function than sigmoid to be robust against outliers

## Sonette Predictor

- Machine Learning • Python • Colab • Deep Learning • LLM

Apr.2023-May.2023

- Given the data set of Shakespearean sonnets and the first 40 characters of hint, generated what will be following the seed
- Generated sequences using **attention** model to solve the natural language processing problem
- Used d2l module on **PyTorch**, following the Dive into Deep learning tutorial