# Daehyun Cho

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## Education

**University California, Irvine** GPA: 3.78
*B.S. in Computer Science* *June 2024*

## Technical Skills

**Languages:** C#, C++, C, Python, Java, JavaScript, Julia
**Databases:** MS SQL, MySQL, SQLite
**Frameworks & Libraries:** .NET (Framework & 8.0), Spring Boot, TensorFlow, PyTorch
**Tools & Infrastructure:** Git, Docker, Jenkins, AWS, GCP, HPC, SVN

## Professional Experiences

**GIT America Inc** August 2024 - Present
*On-Site* *Irvine, CA*

- Maintained and enhanced server-side components of Hyundai/KIA diagnostic applications using C# and .NET Framework, ensuring reliable API integration and high-throughput batch processing.
- Contributed to the migration of on-premises infrastructure to AWS, leveraging Amazon S3 for scalable file storage and optimizing MS SQL queries to enhance database efficiency and reduce response times.
- Facilitated cross-functional collaboration with KIA stakeholders and internal teams to gather requirements, align project goals, and deliver solutions that met both technical and business objectives.

**Medical Imagining Lab** February 2024 - October 2024
*University California, Irvine* *Irvine, CA*

- Optimized CT image processing by implementing a bilateral filter parameter tuning pipeline with grid search and particle swarm optimization, achieving global minima for both domain and range sigma.
- Engineered a U-Net–based deep learning model for precise heart chamber segmentation, cutting overfitting by 20% through targeted hyperparameter tuning.
- Configured and managed SSH-accessible multi-GPU compute clusters, orchestrating distributed memory allocation to accelerate model training.

## Projects

**Image Blender** | *Python, Open-CV, Scipy*

- Reconstructed high-fidelity images via SciPy's least-squares solver, enhancing reconstruction accuracy.
- Engineered Gaussian and Laplacian pyramids through iterative up and down-sampling to achieve seamless image blending.
- Reduced runtime and memory footprint by implementing sparse matrix representations for core computations.

**Living Space Detection** | *PyTorch, Diffusion Models, Segment Anything Model*

- Developed a cloud-removal pipeline by integrating the Segment Anything Model with diffusion-based inpainting, enhancing image clarity for downstream living-space analysis.
- Tuned key hyperparameters (e.g., IoU threshold) to produce robust binary cloud masks, improving segmentation stability and accuracy.

## Activities

**AI Innovation Challenge** | *Team Leader & Developer, Finalist* October 2023 – January 2024

- Led the design and implementation of an AI-powered real-time engagement scoring system, replacing traditional survey methods.
- Built and labeled a custom dataset, developed a scoring function, and showcased the live model to entrepreneurs, earning finalist recognition.

**AI@UCI Club** | *Programmer & Developer* June 2022 – June 2024

- Developed and optimized reinforcement learning agents for the AWS DeepRacer Student League, refining reward strategies to improve autonomous racing performance.
- Conducted comprehensive data analysis for FYM Industry, leveraging Pandas and Matplotlib to build interactive visualizations and streamline insight generation.