

# Kyuhwan Shim

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| INTERESTS           | Computer Vision (Object Detection & Segmentation), Application of Deep Learning  |  |
| RESEARCH EXPERIENCE | <b>Undergraduate Student Researcher, BI Lab</b> Seoul Nat'l U., Korea<br>▪ <b>[Research Topic]</b> TBD, Advised by Byoung-Tak Zhang  | Dec 2023 – Aug 2024                            |
| WORK EXPERIENCE     | <b>Machine Learning Engineer Intern, Nota Inc.</b> Seoul, Korea<br>▪ <b>[Computer Vision]</b> Develop YOLO-based AI models for Intelligent Traffic System<br>▪ <b>[EdgeAI]</b> Inference Traffic Data Extractor Model on NVIDIA AGX Orin (at Deepstream 6.1.)<br>▪ <b>[MLOps]</b> Supplement ML Pipeline (kubeflow, Docker and GCP)<br>▪ <b>[Data/DevOps]</b> Construct Data lake for processing public data (AWS, GitHub Action)<br><br><b>Senior Designer, OCONNECT</b> Ulsan, Korea<br>▪ Student Startup which makes Easy-Insert Socket, OneStep (CEO Hyeong-Jun Bang)<br>▪ <b>[R&amp;D PRJ]</b> at Didimdol R&D start-up growth technology '22<br>▪ <b>[Achievement]</b> Winner @ James Dyson Award '22 KR, Ulsan Collegiate Startup Competition         | Mar 2023 – Aug 2023<br><br>Jun 2020 – Feb 2023 |
| EDUCATION           | <b>Sogang University</b> , Seoul, Korea<br>▪ B.S. in Computer Science<br><br><b>Chungnam Science High School</b> , Kongju, Chungnam, Korea<br>▪ H.S.D. in Informatics  | Mar 2019 – Presents<br><br>Mar 2016 – Feb 2019 |
| MILITARY DUTY       | <b>Yeongdong Firestation</b> , Yeongdong, Chungbuk, Korea<br>▪ Korea Conscripted Firefighters Agency, Yeongdong Rescue & Firehouse   | Aug 2020 – Apr 2022                            |
| AWARDS              | <b>Grand Prize (1st Place)</b> , Gangseo-gu Office<br>▪ <b>[PPT]</b> Risk Rating Model for Small Business Owners in Gangseo-gu using the Credit Rating Model<br>▪ Mayor of Gangseo-gu Office Award<br><br><b>Grand Prize (Nat'l Information Society Agency President Award)</b> , NIA, Minister of Sci. & Tech.<br>▪ BIGCONTEST Data Analytics Innovation League 2022 Grand Prize (Runner-Up)<br>▪ <b>[PPT] [PRJ]</b> Carbon Footprint Calculator & Eco-friendly JEJU travel route RecSys.<br><b>Excellence Award</b> , Chung-nam Science Fair (64th)<br>▪ <b>[Poster]</b> Solar Power System considering the impact of Wave Height<br><b>Special Prize</b> , Chung-nam Science Fair (63th)<br>▪ <b>[Poster]</b> Laser Cutting Machine Using Mechanum Wheels | 2023<br><br>2022<br><br>2018<br><br>2017       |
| SCHOLARSHIPS        | <b>Sogang Alumni Scholarship</b> , Sogang University Alumni<br>▪ 1-Semester full scholarship - General (2020), Startup (2022)<br>▪ Priest Villarreal Memorial (2023) : <b>[Link]</b> Scholarship from Smilegate<br><b>Albatross Scholarship</b> , Sogang University<br>▪ 1-year full scholarship for talent in SW Fields<br><b>Myunghak Scholarship</b> , Kongju Myunghak Scholarship<br><b>Samsung Dream Scholarship</b> , Samsung Dream Scholarship Foundation   | 2019<br><br>2017<br>2016                       |
| ACTIVITIES          | <b>[Samsung AI Challenge] / SAIT</b> Camera-Invariant Domain Adaptation Challenge<br>▪ <b>[DACON Link] [Google Drive]</b> Development of a Domain Adaptive Semantic Segmentation Algorithm Robust to Camera Characteristic Changes<br>▪ Public / Private Leaderboard Top 30 with 'SePiCo' <b>[GitHub] [Paper]</b><br>▪ <b>[Link]</b> Invited to join Samsung Electronics' talent pool<br><b>[LG Aimers / LG AI Research]:</b> Online AI Education & Hackathon<br>▪ <b>[DACON Link]</b> Smart Factory Product Quality Status Classification AI Online Hackathon<br>▪ Phase 3 Online Hackathon Finalist, Phase 2 Top 29 (3%, 29/891)<br><b>INSIGHT:</b> Data Science, Business School of Sogang U.   | Sep 2023- Sep 2023<br><br>Jan 2023- Mar 2023   |

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|                     | <ul style="list-style-type: none"> <li>▪ Data Analysis &amp; ML/DL Leading TA, Various Projects (RecSys, NLP, etc.)</li> </ul>   | Sep 2022- Jun 2023           |
|                     | <b>Round 1, Google Code Jam</b>  | Jul 2021                     |
|                     | <b>Co-Founder, Chief Design Officer, Programmer, OCONNECT</b>  |                              |
|                     | <ul style="list-style-type: none"> <li>▪ Assist developing ONESTEP, an easy-insert socket</li> <li>▪ Design IR Document &amp; Assist on Operation to developing an Moissanite Product</li> </ul>   | Jun 2020- Present            |
|                     | <b>Google Machine Learning Bootcamp, Google Korea</b>  |                              |
|                     | <ul style="list-style-type: none"> <li>▪ Coursera DL Specialization, Certificate in Tensorflow Developers</li> <li>▪ Kaggle Competition, Online Webinar &amp; Tech Talks</li> </ul>  | Sep 2021- Dec 2021           |
|                     | <b>Sogang ICPC Team, Sogang University CSE</b>   |                              |
|                     | <ul style="list-style-type: none"> <li>▪ Algorithm Problem Solving Group</li> </ul>  | Mar 2019 – Present           |
| <b>CERTIFICATES</b> | <b>Certificate in Tensorflow Developers</b> , Tensorflow Certificate Program   | Oct 2021 – Oct 2024          |
|                     | <b>Advanced Data Analytics Semi-Professional</b> , Korea Data Agency   | Apr 2021                     |
|                     | <b>ITQ OA Master</b> for Microsoft Powerpoint, Excel, Hancm Hangul   | Oct 2011                     |
|                     | <b>GTQ Lv-2</b> for Adobe Photoshop  | Oct 2011                     |
| <b>MEDIA</b>        | <b>'Nunettine' wins Grand Prize at Gangseo-gu Big Data Contest</b> , Sogang People   | May 2023                     |
|                     | <b>'DAVENGERS' wins '22 BIGCONTEST Data Analytics Innovation League</b> , Sogang People  | Dec 2022                     |
|                     | <b>UNIST venture 'OCONNECT' wins James Dyson Awards 2022</b> , UNIST Press   | Sep 2022                     |
| <b>SPEECH</b>       | <ul style="list-style-type: none"> <li>▪ <b>[PDF] Seminar</b> Domain Adaptation at Release (Sogang CS)</li> <li>▪ <b>[PDF] Seminar</b> YOLOv8 Seminar at Nota</li> <li>▪ <b>[PDF] Speech</b> at Carbon Neutral Workshop - held by Shinhan Card &amp; World Bank</li> </ul>   | Dec 2023<br>Mar 2023<br>2023 |
| <b>LANGUAGES</b>    | <ul style="list-style-type: none"> <li>▪ Korean: Native</li> <li>▪ English: Fluent</li> <li>▪ Hanja : Lv-3 (Korea Association for the Promotion of Hanja Edu.)</li> </ul>  |                              |
| <b>SKILLS</b>       | <ul style="list-style-type: none"> <li>▪ ML Framework: PyTorch, TensorFlow</li> <li>▪ Programming : C/C++, Python (Intermediate), Verilog, MATLAB, Assembly Language, <math>\LaTeX</math> (Novice)</li> <li>▪ MLOps &amp; DataOps : AWS, GCP, Edge Devices (NVIDIA AGX Orin), Docker, Kubeflow</li> </ul>  |                              |
| <b>PROJECTS</b>     | <b>Samsung AI Challenge - Camera Invariant Domain Adaptation</b>   | Sep 2023 –Oct 2023           |
|                     | <ul style="list-style-type: none"> <li>▪ <b>[PPT]</b> Domain Adaptation for Fisheye Images with SePiCo</li> <li>▪ <b>[My Job]</b> Applying Fisheye Augmentation, Transformer based Segmentation model, Model Research</li> <li>▪ <b>[Tech Stack]</b> Python, Pandas, NumPy, PyTorch Hyunjae Kim,</li> </ul>  |                              |
|                     | <b>Game Review Dashboard Implementation with NLP Sentimental Analysis</b>  | May 2023 –Jun 2023           |
|                     | <ul style="list-style-type: none"> <li>▪ <b>[PPT]</b> Game Review Analysis Dashborad applying NLP Methods : BiLSTM, KoBERT (Fine-tuned)</li> <li>▪ <b>[My Job]</b> Developing Game Review NLP Dashboard Main Page Configuration</li> <li>▪ <b>[Tech Stack]</b> Python, Pandas, NumPy, PyTorch, TensorFlow, Docker, FastAPI, KoNLPy, Plotly</li> <li>▪ <b>[Team NT Fragile]</b> Hyunjae Kim, ChanJoong Lee, Beomyun Kwon, Chanho Park, Minhye Lee</li> </ul>  |                              |
|                     | <b>Risk Rating Model for Small Business Owners using the Credit Rating Model</b>   | Mar 2023 –May 2023           |
|                     | <ul style="list-style-type: none"> <li>▪ <b>[Award] [PPT]</b> Mayor of Gangseo-gu Office Award</li> <li>▪ <b>Integrated data</b> in Gangseo-gu, focusing on data from the Seoul Credit Guarantee Foundation</li> <li>▪ <b>Risk Rating model</b> for small business owners in Gangseo-gu using the credit rating model</li> <li>▪ <b>[Link]</b> Creating a Risk Index Dashboard with Tableau</li> <li>▪ <b>[My Job]</b> Data Analysis &amp; Processing, Designing Presentation</li> <li>▪ <b>[Tech Stack]</b> Python, Pandas, NumPy, Tableau</li> <li>▪ <b>[Team NUNETTINE]</b> Heejin Park, Mijung Bang</li> </ul> |                              |
|                     | <b>Development of Carbon Footprint calculator</b>  |                              |
|                     | <b>&amp; Eco-friendly travel route recommendation system in Jeju Island</b>  | Sep 2022 – Oct 2022          |
|                     | <ul style="list-style-type: none"> <li>▪ <b>[Official Project Link]</b> Innovation League Grand Prize (Runner-Up) @ BIGCONTEST '22</li> <li>• <b>[Award] [PPT]</b> Nat'l Information Society Agency (NIA) President Award</li> </ul>   |                              |

- **[My Job]** Develop with Streamlit & Deploy with Streaming Sharing, Design an Official Project Webpage, CI/CD with GitHub
  - Assist on applying NLP methods and designing an user-specific ML algorithm
- **[1] Carbon Footprint Calculator** Construct Carbon Footprint Calculator by Travel Area
  - Defined Categories : Traffic, Food, Accommodation and Tourism
  - Crawling raw data from 'VISIT JEJU' & 'NAVER Map'
  - Processing & Cleansing & EDA and Design Calculator Logic for those 4 categories
- **[2] Eco-Friendly & User-Specific JEJU Travel Route Recommender System**
  - **[Traveler Feature Hexagon]** Deployed with Streamlit
  - **[Link]** Score Calculation by Tourist Spot with NLP, Word2Vec, t-SNE, Clustering
  - **[Link]** Rule-Based Machine Learning Algorithm
- **[Team DAVENGERS]** Jeonghyun Ha, Kyunghoon Na, Kyungjoo Ko, Hannah Jung
- **Skill Stack**
  - Main Language : Python
  - Library : Pandas, Streamlit, Matplotlib, Plotly, Seaborn, NumPy, GeoPy
  - Develop Environment : Jupyter Notebook, Google Colaboratory (Windows 10, Mac OS X)
  - Deployment : Streamlit Sharing
  - CI/CD & Cooperation with GitHub

**Shell Project**, System Programming, Sogang University

Apr 2022 – Apr 2022

- **[GitHub Link]** Design my own Shell which translates user's command to the Kernel
- [1] Built my own linux shell with C Language, which executes with Linux Basic Command such as 'cd', 'mkdir', 'rmdir', et al.
- [2] Create child process with 'fork()' function, and parent process create a new child process for each instruction by parsing from a Pipelined command.

**Stock Server Project**, System Programming, Sogang University

May 2022 – May 2022

- **[GitHub Link]** Construct a concurrent stock server which can be connected by multiple clients that ask to buy or sell stocks concurrently
- [1] Two Approaches to serve stock server : Event-based, and Thread-based
- [2] Show the status of current stock written from stock.txt file
- After command exit() from the server, update stock.txt file with the rewritten stock status

# OCONNECT

<http://oconnect.kr>



ONE STEP, an easy to plug in outlet

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| <b>REP.</b>                           | CEO <b>Hyeong-Jun Bang</b>  |  |  |
| <b>MEMBERS</b>                        | CTO <b>Jinseo Park</b><br>CDO <b>Kyuhwan Shim</b>   |  |  |
| <b>LOCATION</b>                       | UNISPARK, UNIST Bldg. 307 1F,<br>50, UNIST-gil, Eonyang-eup, Ulju-gun, Ulsan, Republic of Korea   |  |  |
| <b>AWARDS</b>                         | <ul style="list-style-type: none"><li>▪ <b>JAMES DYSON AWARD 2022 - Nat'l, Korea</b>, James Dyson Foundation<ul style="list-style-type: none"><li>▫ Winner (TOP 3), International Competetion Jul 2022</li></ul></li><li>▪ <b>PIN UP Concept Design Award 2021</b>, KAID<ul style="list-style-type: none"><li>▫ BEST 100 in Living Goods Design Dec 2021</li></ul></li><li>▪ <b>Busan-Ulsan-KyungPook Startup Day Innovation Ventures League</b><br/>Samsung Electronics<br/>KyungPook, Ulsan, Busan Creative Econ. &amp; Innov. Center<ul style="list-style-type: none"><li>▫ Excellence Prize at Futures' League Dec 2021</li></ul></li><li>▪ <b>Challenge K-Startup Expo : Collegiate Competition</b><br/>Ministry of SMEs and Startups,<br/>Korean Institute of Startup &amp; Entrepreneurship Developement<ul style="list-style-type: none"><li>▫ Top 10, Offline Exhibition Oct 2021</li><li>▫ Top 50, Offline Exhibition Aug 2019</li></ul></li><li>▪ <b>Social Challenge alpha 7</b>, OhMyCompany, BSS, LISCC<ul style="list-style-type: none"><li>▫ Challenge Award, Crowd Funding (Funded 1,424,000 KRW) Sep 2020 – Dec 2020</li></ul></li><li>▪ <b>Ulsan Collegiate Startup Excellent Idea Contest</b><br/>Ulsan Creative Econ. &amp; Innov. Center<ul style="list-style-type: none"><li>▫ Winner : Grand Prize Nov 2020</li></ul></li><li>▪ <b>Institute of Science &amp; Technology Startups Competition</b><br/>KAIST, GIST, DGIST, UNIST, POSTECH<ul style="list-style-type: none"><li>▫ Representative of UNIST (Top 2 at UNIST) Dec 2020</li><li>▫ Representative of UNIST (Top 3 at UNIST) Nov 2019</li></ul></li></ul> |  |  |
| <b>FUNDINGS &amp; SUPPORT PROGRAM</b> | <ul style="list-style-type: none"><li>▪ <b>DIDIMDOL First Step - Startup Growth Development Project</b>,<br/>Ministry of SMEs and Startups,<ul style="list-style-type: none"><li>▫ Recommended from Ulsan Creative Econ. &amp; Innov. Center Aug 2022 – Jul 2023</li></ul></li><li>▪ <b>Ulju Youth Startup Academy</b>, Ulsan Youth Startup Center Mar 2022 – Dec 2022</li><li>▪ <b>Pre-IBK Changgong @ UNIST</b>, UNIST, IBK Changgong Jul 2022 – Nov 2022</li><li>▪ <b>Private-Sector Open Start-up Revitalization Project</b>,<br/>Ulsan Creative Econ. &amp; Innov. Center May 2022 – Oct 2022</li><li>▪ <b>BUSAN BIGS Program</b>,<br/>Busan-si, KSD, KHUG, KOSPO, HF, KIBO, Busan PA, BNK Mar 2022 – Sep 2022</li><li>▪ <b>Innopolis Campus for Ulsan Collegiate</b>, UNIST, Innopolis Jun 2021 – Aug 2022</li><li>▪ <b>12th UEPA Startup Incubator</b>, Ulsan Youth Startup Center Mar 2021 – Dec 2021</li><li>▪ <b>SBC Youth Entrepreneurship Academy</b>, Korea SMEs and Startups Agency<ul style="list-style-type: none"><li>▫ Most Funded Startup Company (100,000,000 KRW)</li><li>▫ Excellent Completion at Pre-School</li></ul></li></ul>   |  |  |

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|                   | <ul style="list-style-type: none"> <li>▫ 'Pre-School' Completion of Excellence &amp; Youth Startup Academy Nov 2020 – Nov 2021</li> </ul>  |  |
|                   | <ul style="list-style-type: none"> <li>▪ <b>UNIST Unicorn Start-Up Support Program</b>, UNIST <ul style="list-style-type: none"> <li>▫ Funding (12,000,000 KRW)</li> <li>▫ Participated for Four Semesters</li> </ul> </li> </ul>  | Sep 2019 – Feb 2021  |
|                   | <ul style="list-style-type: none"> <li>▪ <b>KISED Pre-Startup Package (General Field)</b>, Korea Institute of Startup &amp; Entrepreneurship Development <ul style="list-style-type: none"> <li>▫ Most Funded (70,000,000 Won)</li> </ul> </li> </ul>  | Apr 2020– Dec 2020   |
| <b>ACTIVITIES</b> | <ul style="list-style-type: none"> <li>▪ <b>Ulsan Knowledge-Technology Startup Center</b>, Ulsan Technopark</li> <li>▪ <b>Patent IP Training Education</b>, Intellectual Property Office</li> <li>▪ <b>K-Camp Busan</b>, Krypton</li> </ul>  | Oct 2020<br>Jun 2020 – Dec 2020<br>Nov 2019 – May 2020                           |
| <b>MEDIAS</b>     | <ul style="list-style-type: none"> <li>▪ <b>UNIST Startup OCONNECT wins at JAMES DYSON AWARD 2022</b>, UNIST Press, CHOSUN Ilbo, Segye Ilbo, Sisa-news, Newsis</li> <li>▪ <b>UNIST 2021 Innopolis Performance Presentation</b>, UNIST Press, UlsanDaily, ETNews</li> <li>▪ <b>UNIST UNISPARK for Young Entrepreneurs</b> UNIST Magazine 2021 Winter</li> <li>▪ <b>Southeast Venture Competition held by UNIST Lab Startup Innovation Group</b> The Korea Economy TV</li> <li>▪ <b>"New evolution of electrical outlets..." OneStep is released</b> The Korea Economic Daily</li> <li>▪ <b>"Make a 'National Outlet' which 'Connects' warmth to each other"</b> UNIST Magazine 2021 Spring</li> <li>▪ <b>"Doing businesses regardless of COVID-19" - Leap forward with technology</b> SBS, UBC</li> </ul> | Feb 2022<br>Feb 2022<br>Dec 2021<br>Dec 2021<br>Dec 2021<br>Feb 2021<br>Feb 2021 |
| <b>PATENTS</b>    | <ul style="list-style-type: none"> <li>▪ <b>Patent Registration</b></li> <li>▪ <b>Patent Application</b> <ul style="list-style-type: none"> <li>▫ <b>Design Registration Application</b>, H. J. Bang(2021)</li> </ul> </li> <li>▪ <b>International PCT Application</b></li> <li>▪ <b>Trademark Application</b></li> </ul>  |  |