

# Yeonsang Shin

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## RESEARCH INTERESTS

Computational Imaging, Computer Vision, Event Cameras, AI Safety, Generative AI

## EDUCATION

### Seoul National University

*B.S. in Electrical and Computer Engineering*

Seoul, Korea

*Mar 2019 - Jun 2025 (Expected)*

- **GPA:** 4.06/4.3 (3.93/4.0)

\* Mandatory Military Service Included (2021-2023)

### Seoul Science High School

*High school diploma*

Seoul, Korea

*Mar 2016 - Feb 2019*

## PUBLICATIONS

- Yeonsang Shin\*, Insoo Kim\*, Bongkeun Kim, Keonwoo Bae, and Bohyung Han. Autoregressive Modeling and Generation of Sequences with Joint Discrete and Continuous Spaces. *Under review*
- Yeonsang Shin\*, Jihwan Kim\*, Yumin Song, Kyungseung Lee, Hyunhee Chung, and Taeyoung Na. Generating Animated Layouts as Structured Text Representations. In **CVPR 2025 Workshop** on AI for Content Creation. [Project Page]

## AWARDS & HONORS

### Presidential Science Scholarship

*Jan 2019 - Present*

A full 4-year scholarship awarded for outstanding research performance in high school. \$5,500 awarded every semester for full tuition and living expenses by the Government of South Korea.

### KRAFTON AI Fellowship

*Jun 2024 - Dec 2024*

Selected Top 6 among 1,000 participants in a competitive process. Awarded a research grant \$7,500 and an internship offer.

### 1st/16 Teams, SK Telecom AI Fellowship

*May 2024 - Nov 2024*

Selected for proposed research in dynamic layout generation; awarded \$4,300 research grant and opportunity to collaborate with industry researchers. Won first place in the fellowship research competition; awarded \$2,500 prize.

### Specialized Semiconductor Program Scholarship

*Nov 2023 - Present*

Awarded \$750 upon selection and an additional \$7,500 upon graduation for high-achieving students.

### 3rd/144 Teams, SNU FastMRI Challenge

*Jul 2023 - Aug 2023*

A significant competition held independently in the university, inspired by the FastMRI competition hosted by Meta.

Presented a deep neural network for MRI reconstruction with undersampled data under restricted conditions.

### Military Service Honored Family

*Feb 2023*

Awarded for family's three-generation legacy of serving as active-duty soldiers. 457 months of military service by six members, elite 0.2% of Korean men as of 2023.

## TEACHING ASSISTANT

### FastMRI Challenge 2024 TA, Seoul National University

Seoul, Korea

*Contest Coordinator (Advisor: Prof. Jongho Lee)*

*Apr 2024 - Aug 2024*

Organized and supervised the contest with 160 participating teams, including the preparation of the challenge dataset, development of baseline codes, creation of guideline videos, and addressing issues. Managed GPU servers and evaluated the models submitted at the contest's conclusion.

## RESEARCH EXPERIENCES

### Visual Computing Lab, KAIST

Daejeon, Korea

*Research Intern (Advisor: Prof. Min H. Kim)*

*Jan 2025 - Present*

- **Event Cameras.** Research in computational imaging.

### Computer Vision Lab, Seoul National University

Seoul, Korea

*Research Intern (Advisor: Prof. Bohyung Han)*

*Jan 2024 - Jan 2025*

- **Autoregressive Generation.** Developed a framework jointly modeling discrete and continuous values to maintain full precision in vector representations; first-author paper under review, research supported by Samsung Electronics.

**KRAFTON Inc.**, Deep Learning Div.  
*AI Researcher Intern (Advisor: Prof. Kangwook Lee)*

Seoul, Korea  
*Jun 2024 - Dec 2024*

- **3D Computer Vision.** Conducted research on 3D computer vision problems: novel view synthesis for unposed images / 3D inpainting; approaching these challenges as inverse problems through diffusion models.
- **AI-Driven Life Simulation (inZOI Project).** Engineered autonomous agent behavior systems using Small Language Models (SLMs) to enable dynamic action selection, strategic planning, and contextual reasoning for in-game characters.

**SK Telecom**  
*AI Fellowship (Contract, Advisor: Taeyoung Na)*

Seoul, Korea  
*May 2024 - Oct 2024*

- **Animated Layout Generation.** Proposed a first-ever approach to extend layout generation by incorporating temporal dynamics; collaborated with GST Media Gen AI Team, first-author paper under review.

**Data Science & Artificial Intelligence Lab**, Seoul National University  
*Research Intern (Advisor: Prof. Sungroh Yoon)*

Seoul, Korea  
*Mar 2023 - Dec 2023*

- **Image Composition.** Studied the basics of AI / Computer Vision and solved the novel task of ‘Subject-Driven Image Composition for Accessories.’

## INTERNSHIPS & EXPERIENCES

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**Theta One, Inc.**  
*Deep Learning Engineer (Internship, Part-time)*

Seoul, Korea  
*Nov 2022 - Jan 2023*

- **Nonsense Detection** Developed a model to detect and classify various nonsense inputs, especially mild gibberish.

**Republic of Korea Defense Communication Command**  
*Military Service*

Gwacheon-si, Korea  
*Aug 2021 - Feb 2023*

- **Telecommunications System** Maintained military microwave communication systems, providing backup supports for telecommunication stations.
- **System Upgrades** Implemented new devices like spectrum analyzers to enhance telecommunication network stability.

**DESILO, Inc.**  
*Software Developer (Internship)*

Seoul, Korea  
*Apr 2021 - Jul 2021*

- **Python-PALISADE Project** Implemented and distributed a Python wrapper for PALISADE, a C++ library for Homomorphic Encryption.
- **Research on Google FHE Transpiler** Tested the stability and performance of the Google FHE Transpiler and presented adoptable ideas for the company.
- **DESILO HE Library** Contributed to building internal APIs for the DESILO HE Library
- **WebAPI** Developed an MVP website using FastAPI and MySQL.

## ACTIVITIES AND SOCIETIES

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- **Young Engineers Honor Society** Full Member, sponsored by the National Academy of Engineering of Korea (Jan '23 - ). Served as the Department Head of Strategy & Planning 3 Department in 2024.
- **STEM: SNU Tomorrow's Engineers Membership** Honor Society in College of Engineering, SNU (Sep '24 - )
- **SNU Buddy Program** Organized and participated in activities and events for international exchange students. Awarded the Best Group Award for both semesters (Aug '23 - Jun '24).
- **Dream Consultant** Mentored high school students on materializing their dreams (Jul '23).
- **Student Council, Dept. of ECE** Planning team member (Feb '20 - Aug '21).
- **Festival Planning Team** Affiliated with Seoul National University (Feb '21 - Jul '21).
- **Student Council, College of Engineering** Welfare team member (Feb '20 - Nov '20).
- **Student Council, College of Engineering** Design team member (Mar '19 - Nov '19).
- **Engineering Volunteers** Mentored underprivileged students in technology (Aug '19).
- **Invention Club** Club Captain for 3 years, won an award at the Korean Student Invention Exhibition (Mar '16 - Feb '19).
- **Science Debating Club** Club Captain for 1 year, orchestrated the largest student-held forum attended by most faculty members (Mar '17 - Feb '18).
- **Orchestra Club** Played the cello for 2 years, contributing to school performances and events (Mar '16 - Feb '18).

## SKILLS & LANGUAGES

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- **Programming Languages** Python, C/C++, JavaScript, MATLAB
- **Frameworks/Libraries** PyTorch, TensorFlow, Git, Docker, SQL, Amazon AWS, pandas
- **Languages** English(Full proficiency; TOEFL iBT 109), Korean(Native)