Saebyeol Shin

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EDUCATION

Sungkyunkwan University (SKKU)   **Seoul, Korea**
BS in *Data Science* (Major GPA: 3.93/4.0)   *03/2019 – 02/2024 (anticipated graduation)*
BS in *Computer Science and Engineering* (Major GPA: 3.95/4.0)

PUBLICATIONS

1. Lee, G.H., <u>Shin, S.B.</u>, Ko, D.G., and Woo, S.S. **"A-ColViT: Real-time Interactive Colorization by Adaptive Vision Transformer."** AAAI Workshop on Practical Deep Learning in Wild (AAAI-PracticalDL), 2023. *Under Review*

2. <u>Shin, S.B.</u> and Woo, S.S. **"MaskDF: Adaptive Mask Attention for Effective Deepfake Detection."** ACM/SIGAPP Symposium On Applied Computing (SAC), 2023. *Under Review*

3. Lee, G.H., <u>Shin, S.B.</u>, and Woo, S.S. **"Accelerating CNN via Dynamic Pattern-based Pruning Network."** ACM International Conference on Information & Knowledge Management (CIKM), 2022.

4. Lee, G.H., <u>Shin, S.B.</u>, and Woo, S.S. **"Efficient Multi-Scale Feature Generation Network."** Korea Computer Congress (KCC), 2022.

5. Lee, S.J.*, Ko, D.G.*, Park, J.Y., <u>Shin, S.B.</u>, Hong, D.H., and Woo, S.S. **"Deepfake Detection for Fake Images with Facemasks."** ACM Workshop on the Security Implications of Deepfakes and Cheapfakes (WDC), 2022.

6. An, J.J.*, Kim, J.H.*, Lee, H.B., Kim, J.B., Kang, J.H., Kim, M.H. <u>Shin, S.B.</u>, Hong, D.H., and Woo, S.S. **"VFP290K: A Large-Scale Benchmark Dataset for Vision-based Fallen Person Detection."** Neural Information Processing Systems (NeurIPS), 2021.

* Equal contributors

RESEARCH EXPERIENCE

SKKU DASH Lab, Department of Artificial Intelligence   **Suwon, Korea**
Research Assistant (Advisor: Prof. Simon S. Woo)   *06/2021 – 11/2022*
- Established a pruning network to preserve the advantages of both static and dynamic networks, enhancing the kernel's representational power and achieving acceleration.

WORK EXPERIENCE

SK Telecom AI Fellowship   **Pangyo, Korea**
Modeling & Application Development Intern   *06/2022 – 11/2022*
- Developed user-interactive, context/instance adaptive colorization model to colorize and restore grayscale images of historically significant events in Korea such as independence movements, Korean War, and democratization protests.

PROJECT EXPERIENCE

Object Detection in Satellite Images   **Hanwha System / ICT**
Industry-Academic Cooperation Researcher   *05/2022 – 09/2022*
- Contribute to the development of a rotated object detection network on satellite SAR datasets.

Excellence Undergraduate Research Project   **SKKU**
Researcher, (A+ for whole participation – 2021 fall & 2021 winter & 2022 spring).   *08/2021 – 06/2022*
- Examined efficient deepfake detection methods with manipulated images to prevent privacy invasion/security threats.

Solving Mathematical Problems using NLP Technology   **Institute for ICT Promotion (IITP)**

Researcher, 5th AI Grand Challenge   *07/2021 – 05/2022*

- Constructed efficient deep learning models to solve mathematical problems that understands the context of natural language with improved inference speed compared to existing deep learning models.
- Distributed open-source software such as web and applications and demonstrated the solutions for math problems.

Abnormal Behavior Detection in CCTV using Object Detection Algorithm   **IITP**

Researcher, 4th AI Grand Challenge   *06/2021 – 12/2021*

- Developed a novel, large-scale dataset in various real-world scenarios for the robust detection of fallen people.
- Published a research paper on the usefulness of the dataset to research fallen person detection, which can further extend to other applications such as intelligent CCTV or monitoring systems.

AWARDS AND HONORS

[Awards]

- Grand Prize (2nd Place), SKT AI Fellowship   *11/2022*
- 4th Place (top 1.5%), Natural Language-based Climate Technology Classification AI Competition,   *08/2021*
  Green Technology Center / DACON
- Research Grant Winner, 5th AI Grand Challenge, IITP   *07/2021*
- Grand Prize (1st Place), Sungkyunkwan University Convergence Project   *08/2020*

[Scholarships]

- SIGIR Student Travel Grants for CIKM 2022   *10/2022*
- SKKU Student Success Changeui Scholarship (100% tuition support)   *06/2022*
- SKKU Student Success Didimdol Scholarship   *10/2020*
- SKKU Academic Excellence Scholarship (70% tuition support)   *02/2020*
- Mega Study Scholarship (external)   *05/2019*

TEACHING EXPERIENCE

SKKU Summer Data Science Bootcamp: Python Programming   **Seoul, Korea**

Teaching Assistant   *07/2020 – 08/2020*

- Lectured on Python to enhance students' academic competencies and software skills.

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

SKKU Convergence Project for Smart University Life during COVID-19   **Suwon, Korea**

Team Leader   *07/2020 – 09/2020*

Provided "Take Eat Easy," a group food order service to reduce the burden of expensive delivery fee for single students.

SKKU Institute of Broadcast Research   **Seoul, Korea**

Member, Content Planning Department   *03/2019 – 03/2020*

- Studied and filmed short movies and commercials with team members.
- Organized and participated in various campus activities and events such as welcoming party and student festivals.

SKKU Global Buddy Program   **Seoul, Korea**

Global Buddy Assistant Leader   *09/2019 – 12/2019*

- Assisted exchange and international students adjust to the Korean culture, society, and university campus life.

PROFICIENCY IN SKILLS

Computer/Programming: Python, C, JAVA, R, LaTeX (all advanced)

Framework: PyTorch, TensorFlow

Languages: Korean (native fluency), English (full professional proficiency)