GEUNHYEOK YU

Ph.D. Student

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Yongin-si, Republic of Korea

SUMMARY

Talented student with industrious and systematic approach to learning information. Open and clear worker with disciplined execution and methodical nature. Extensive knowledge of research and software skills.

RESEARCH INTERESTS

- Computer Vision
- Artificial Intelligence
- Representation Learning
- Model Compression

EDUCATION

Mar. 2024 – Present
Kyung Hee University, Republic of Korea — **Yongin-si, Korea**
Ph.D. course in Department of Software Convergence
Artificial Intelligence and Robotics Lab. supervised by Prof. Hyoseok Hwang

Mar. 2022 – Feb. 2024
Kyung Hee University, Republic of Korea — **Yongin-si, Korea**
M.S. course in Department of Software Convergence
Artificial Intelligence and Robotics Lab. supervised by Prof. Hyoseok Hwang

Mar. 2018 – Feb. 2022
Gachon University, Republic of Korea — **Seongnam-si, Korea**
B.S. course in Department of Software

EXPERIENCE

Mar. 2022 – Present
Ph.D./M.S. Student Researcher — **AIRLab, Kyung Hee University, Korea**
- "Real-Time Automated Solubility Screening Method Using Deep Neural Networks with Handcrafted Features"
- "Generative Perturbation Network for Universal Adversarial Attacks on Brain-Computer Interfaces"
- "D-BADGE: Decision-based Adversarial Batch Attack with Directional Gradient Estimation"
- "A2XP: Towards Private Domain Generalization"

`PyTorch / Deep Learning / Probabilistics / Linear Algebra`

Mar. 2022 – Present
Teaching Assistant — **Dept. of Software Convergence, Kyung Hee University, Korea**
- Operating System (CSE301-01, Spring Sem. 2022.)
- Robot Programming (SWCON331-00, Fall Sem. 2022.)
- Web/Python Programming (SWCON104-01, Spring & Fall Sem. 2023.)
- Reinforcement Learning (SWCON495-00, Fall Sem. 2024.)

Jul. 2020 – Aug. 2020
Internship Student — **DDS, Seoul, Korea**
- CAD Development Team
- 3D Model Visualization

`C++ / VTK / Linear Algebra / Geometry`

Mar. 2020 – Dec. 2020
Teaching Assistant — **Dept. of Software, Gachon University, Korea**
- Object-oriented Programming (09805003–4, Spring Sem. 2020.)
- Software Implementation Patterns (11494005, Fall Sem. 2020.)

PROJECTS

Mar. 2022 – Jul. 2022
Development of solubility measurement technology using computer vision — **(주) 디스메카, SAIT Corp.**
Hubidity Detection, Machine Learning, Computer Vision

PUBLICATIONS

INTERNATIONAL JOURNAL

May. 2024
D-BADGE: Decision-based Adversarial Batch Attack with Directional Gradient Estimation
IEEE Access, Vol. 12, pp. 80770-80780, 2024. [IF: 3.9]
Geunhyeok Yu, Minwoo Jeon, Hyoseok Hwang
Keywords – Decision-based adversarial attack, universal adversarial attack, deep neural networks

Nov. 2023 **Generative Perturbation Network for Universal Adversarial Attacks on Brain-Computer Interfaces**
IEEE Journal of Biomedical and Health Informatics, Volume: 27, Issue: 11, 2023, [IF:7.76]
Jiyoung Jung, HeeJoon Moon, **Geunhyeok Yu**, Hyoseok Hwang
Index Term – Adversarial attack, brain computer interfaces, EEG classification, universal adversarial perturbation

Jun. 2023 **Real-Time Automated Solubility Screening Method Using Deep Neural Networks with Handcrafted Features**
MDPI Sensors 2023 23(12) [IF:3.847]
Minwoo Jeon, **Geunhyeok Yu**, Hyundo Choi, Gahee Kim, Hyoseok Hwang
Keywords – Solubility measurement, automated solubility screening, handcrafted feature, deep neural networks, support vector machine

INTERNATIONAL CONFERENCE

Jun. 2024 **A2XP: Towards Private Domain Generalization**
IEEE/CVF CVPR, 2024
Geunhyeok Yu, Hyoseok Hwang

SKILLS

Software

- OpenCV
- PyTorch
- Git

Research

- Scientific Methodology
- Analytic Thinking
- Teamwork and Collaboration

LANGUAGES

English ●●●○○
Korean native