Cheol Jun Cho

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EDUCATION

Seoul National University (SNU) **Seoul, Korea**
B.S. in Computer Science and Engineering *Mar 2014 - Jun 2016, Sep 2018 - Aug 2020*

- GPA: 4.2/4.3 (Summa Cum Laude & Ranked 1st in SNU College of Engineering)

RESEARCH EXPERIENCE

JeeLab, Center for Neuroscience, Brain Science Institute **KIST, Seoul, Korea**
Research Intern, Advisor: Dr. Jee Hyun Choi *Jul 2020 - Present*

- Computational Neuroscience; Cognitive Neuroscience; System Neuroscience
- Analyze neural data, local field potential of basolateral amigdala (BLA), and behavioral data to investigate networks associated with BLA. (in progress)
- Worked on extracting mouse tracking data from experiment videos.

Computational Clinical Science Laboratory **SNU, Seoul, Korea**
Research Intern, Advisor: Dr. Woo-Young Ahn *Mar 2020 - Present*

- Computational Neuroscience; Cognitive Neuroscience;
- Develop multi-voxel fMRI analysis tool running on Python. (in progress)
- Work on setting infrastructure for multi-voxel pattern analysis based neurofeedback experiment. (in progress)
- Worked on computational modeling and hierarchical Bayesian analysis on behavioral and multi-modal data.

KAIST Interaction Laboratory (KIXLab) **KAIST, Daejeon, Korea**
Summer Research Intern, Advisor: Prof. Juho Kim *Jun 2019 – Aug 2019*

- Human Computer Interaction; Natural Language Processing
- Worked on speech act based chatbot project as part of national funded AI-flagship.
- Designed/experimented deep learning model(bi-LSTM like) for speech act classification and explored word embedding models (word2bec, Globe).
- Tested on the Switchboard Dialog Act (SwDA) corpus and Verbal Response Mode dataset.

Computing and Memory Architecture Laboratory (CMALab) **SNU, Seoul, Korea**
Research Intern, Advisor: Prof. Sungjoo Yoo *Dec 2018 – Jun 2019*

- Computer Vision; Deep Learning
- Explored methods regarding computing efficiency of deep learning model.
- Explored methods combining online-training and teacher-student framework.

COURSE PROJECTS

Bachelor's Thesis **SNU, Seoul, Korea**
Independent Research *Mar 2020 – Jun 2020*

- Computer Vision; Natural Language Processing
- Title: Neural Symbolic Visual Question Answering System: application to real world data and limitation.
- Implemented symbolic question encoder, scene graph generator, and symbolic program executor.
- Tested on General Question Answering Dataset, and analyzed limitation of application.

Brain-Mind-Behavior Independent Research Course **SNU, Seoul, Korea**
Independent Research *Sep 2019 – Dec 2019*

- Natural Language Processing; Interpretable AI
- Title: Deep Neural Networks with Attention Pooling for Dialogue Act Recognition
- Researched dialogue act classification model as extension of work in summer internship.
- Verified self-attentive pooling method for integrating token vectors to sentence vector.
- Interpreted model inference process by analyzing attention weights,
- Received best research award in 2019 Brain-Mind-Behavior Research Presentation,

Creative Integrated Design Course **SNU, Seoul, Korea**
Project: Plant Disease Detecting Web Service *Sep 2018 – Dec 2018*

- Computer Vision; Interpretable AI
- Developed plant disease detection web service by utilizing deep learning as team of three.
- Trained/evaluated image classification model for plant disease detection.
- Visualized inference process utilizing guided GRAD-CAM technique.
- Implemented web service which provides detection/visualization/remedies recommendation.

OTHER PROJECTS

SNU Creative Design Fair **SNU, Seoul, Korea**
Project: Interactive Robotic Vacuum *Jun 2019 – Sep 2019*

- Robotics; Human Robot Interaction (HRI); Computer Vision
- Participated in SNU Creative Design Fair as team of four.
- Designed and implemented unique pointed-shape body with omnidirectional wheels.
- Devised novel HRI platform : users interact with robot by hand gesture.
- Developed smartphone app. featured by embedded hand gesture detecting model.
- Won 2nd place of SNU Creative Design Fair, and 1st place of International Capstone Design Fair

TECHNICAL SKILLS

Programming Languages:

- Python, R, Stan, C, C++, Arduino

Software Packages:

- Deep Learning (Pytorch , Tensorflow), Computer Vision (opencv), Natural Language Processing (Gensim, NLTK), Data Analysis (Rstan, hBayesDM), Web Programming (Django), Machine Learning (Scikit learn), Other (Mediapipe)

AWARDS AND HONORS

President's Award for 1st ranked graduation in SNU College of Engineering	Aug 2020
Best research award from 2019 Brain-Mind-Behavior Research Presentation at SNU	Sep 2019
1st place of International Capstone Design Fair 2019 (Korea, China)	Nov 2019
2nd place of SNU Creative Design Fair of SNU College of Engineering	Sep 2019
SNU's Tomorrow's Engineers Membership (honor society of college of engineering)	May 2016
Korea National Scholarship (fully funded)	2016 Spring, 2018 Fall-2019 Fall
Army Commendation Medal (ARCOM)	Jun 2018
Certificate of Appreciation (CA) from US 8th Army	Jun 2018
SNU Merit Scholarship (fully funded)	2015 Spring,Fall
SNU Merit Scholarship (half funded)	2014 Fall

OTHER SERVICES AND ACTIVITIES

STEM Mini Vision Mentoring **2016, 2019**

- Visited middle and high schools as mentor.
- Introduced Engineering School, especially about Computer Science,
- Shared my own learning strategies and experiences.

Korean Augmentation to the United States Army (KATUSA) **Sep 2016 - Jun 2018**

- Served in 8th Army HHB IS G4 Information Management Office.
- Supported electrical automation and equipment maintenance for operations.

S20 project contest by Shinhan Bank **Mar 2016 - Jun 2016**

- Won 1st place as SNU's Tomorrow's Engineers Membership team.
- Presented idea for smart banking with AI technologies.