Jeong-Hoon **Lee**

100 Mokdong East St., Yangcheon Gu, Seoul 08096, South Korea

(+82) 10-3307-2578 | ljh_0921@yonsei.ac.kr | Scholar | tmmichi.github.io | TMmichi

EDUCATION

Yonsei University *Seoul, Korea*

Master of Science in Mechanical Engineering *Sep 2019 - Aug 2021*

- Supervisor: Prof. Jongeun Choi
- Thesis: Attaining Interpretability in Reinforcement Learning via Hierarchical Primitive Composition
- Cumulative GPA: 3.86/4.3

Yonsei University *Seoul, Korea*

Bachelor of Science in {Mechanical Engineering, Electrical & Electronic Engineering (Double Major)} *Mar. 2012 - Aug 2019*

- Military service (July 2013 - July 2015)
- Cumulative GPA: 3.63/4.3
- GPA: **ME** - 3.6/4.3 & **EE** - 3.98/4.3

PUBLICATIONS

- **Jeong-Hoon Lee** and Jongeun Choi, "Attaining Interpretability in Reinforcement Learning via Hierarchical Primitive Composition", Submitted to *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, July, 2021. **(Under Review)**
- **Jeong-Hoon Lee,** Hee-Jin Yu, Min-ji Kim, Jin-Woo Kim, and Jongeun Choi, "Automated cephalometric landmark detection with confidence regions using Bayesian convolutional neural networks", *BMC Oral Health*, 20, 1 (2020):1-10.

CONFERENCE PRESENTATIONS

- **Jeong-Hoon Lee** and Jongeun Choi, "최대 엔트로피 강화학습에서의 사용자 데이터를 반영한 최적 정책 학습", 대한기계학회 춘추학술대회, (2021):112-113.
- **Jeong-Hoon Lee,** Min-Ji Kim, Jin-Woo Kim, and Jongeun Choi, "Automated Detection of Cephalometric Landmarks and Confidence Regions using Bayesian Convolutional Neural Networks", *24th EACMFS Congress*, 1003, (2018).
- **Jeong-Hoon Lee,** Min-Ji Kim, Jin-Woo Kim, and Jongeun Choi, "Automated Detection of Cephalometric Landmarks using Bayesian Convolutional Neural Networks on GPUs", *NVidia GPU Technology Conference*, P8186, (2018).

RESEARCH EXPERIENCE

Machine Learning & Control Systems Laboratory, Yonsei University *Seoul, Korea*

Research Assistant *Sep 2019 - Aug 2021*

- Research Theme: Hierarchical Reinforcement Learning, eXplainable RL
- Fully & soley worked on conception, algorithmic design, coding, and analysis of the submitted paper
- Project manager of IITP No.2019-0-01593, involved in part of KEIT dual-arm project
- Lead multiple undergraduate interns in MLCS laboratory

Mechanical Systems & Control Laboratory, University of Waterloo *Waterloo, Canada*

Visiting Scholar *Jan 2020 - Jun 2020*

- Research Theme: Hardware/software testbed setup for the sim-to-real manipulation environment
- Built multiple ROS packages including:
  (1) Camera mount adjusting its FOV to be centered at the end-effector
  (2) Manipulator teleoperation package with moveit! implemented in V-rep / real machine
  (3) and much more
- Supported by IITP, grant funded by the Korea Government (MSIP) (No.2019-0-01593)

Machine Learning & Control Systems Laboratory, Yonsei University *Seoul, Korea*

Undergraduate Student Intern *Aug 2017 - Aug 2019*

- Research Theme: Locating landmarks and their confidence regions from medical images with Bayesian CNNs
- Newly proposed the score method for the Bayesian CNNs when applied to the coordinate location task
- Built the full framework/functionalities of the algorithm used in the project from scratch

Computational Material Mechanics Laboratory, Yonsei University *Seoul, Korea*

Undergraduate Student Intern *Jun 2016 - Jun 2017*

- Research Theme: Structural, migrational properties and physical behavior of defected silicene under uni/biaxial tension
- Calculated material properties of silicenes using newly adjusted potentials for sheet materials
- Analyzed material data and extracted potential features

AWARDS, HONORS, and SCHOLARSHIPS

- **6th Place** *2021*

2021 구강계질환 의료영상 인공지능(AI) 경진대회

- **High-Potential Individuals Global Training Scholorship** *2019-2020*

Institute of Information & Communications Technology Planning & Evaluation (IITP)

- **1st Place** *2018*

BMW-Yonsei Student Research Competition

- **Academic Excellence Honor Scholorship** *Fall, 2017*

Yonsei University

- **High Honor** *Fall, 2017*

Yonsei University

- **Honor** *Spring, 2017*

Yonsei University

Teaching Experience

Machine Learning and Programming (MEU5053)

Graduate Student Instructor *Spring, 2021*

- Taught programming sessions
- Wrote codes for the programming sessions and assignments
- Setup/managed the GPU server for class team projects
- Hosted office hours

SW Programming (YCS1002)

Teaching Assistance *Fall, 2018 - Spring, 2019*

- Directed labs and hosted office hours
- Assisted students with problems they found difficult to understand

EXTRACURRICULAR ACTIVITY

Republic of Korea Air Force, 15th Special Activity Wing *Seongnam, Korea*

Sergeant, Aero-facility Operator *July 2013 - July 2015*

- Managed and maintained aero-facilities around the airfield
- Planned mid- and long-term fuel & refrigerant consumptions

Yonsei University Residential College *Songdo, Incheon*

Residential Assistance *Feb 2016 - Jun 2017*

- Supervised freshman students of Yonsei univ. to successfully adjust in a life, educational manner
- Conducted math tutoring, table-tennis, and choir programs

Avenante, Yonsei University Mixed Choir *Seoul, Korea*

Member *Mar 2013 - Dec 2018*

- Participated as a member for 8 semesters
- Participated as the chief and vice-chief of tenors for 2 and 1 semesters, repectively

Skills

Hardware Arduino, Raspberry-pi, Nvidia Jetsons

Software Python, C++, ROS, Tensorflow/PyTorch