

# Sooyong Jang

sooyong.jang@gmail.com

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## Education

- **University of Pennsylvania**, Philadelphia, PA  
Ph.D.: Computer and Information Science (GPA: 3.97/4.00) Aug 2018 – May 2024 (anticipated)  
M.S.: Computer and Information Science (GPA: 4.00/4.00) Graduated: May 2017
- **Seoul National University**, Seoul, South Korea  
Cum Laude (GPA: 3.80/4.30) Graduated: Feb 2013  
B.S.: Computer Science and Engineering  
B.B.A.: Business Administration
- **Uppsala University**, Uppsala, Sweden Spring 2010  
Exchange student: Information Technology

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## Research Experience

- **Ph.D. Student @ PRECISE Center**, University of Pennsylvania, Philadelphia, PA May 2018 - Present
  - Maintains medical related applications
    - ◆ Remotely collecting SpO2 data for Bronchopulmonary Dysplasia (BPD) patients for more than three years
    - ◆ Analyzing glucose data for diabetes patients (Paper: Malone et al., 2021)
  - Researches confidence calibration of neural network classifiers
    - ◆ Implemented a calibration algorithm using Lossy Label-Invariant transformations (Paper: Jang et al., 2021)
  - Studies sequential covariate shift detection
    - ◆ Developed a sequential covariate shift detection algorithm (Paper: Jang et al., 2022)
- **Undergraduate Research Intern @ BioIntelligence Lab.**, Seoul National University, South Korea Sep 2011 – Dec 2012
  - Researched on robot motion generation with a humanoid robot, DARwIn-OP
  - Studied human motion learning with Dynamic Hypernetwork algorithm
- **Visiting Research Student @ Institute for Robotics & Intelligent Machines**, Georgia Institute of Technology, Atlanta, GA Jul 2011
  - Ported the anyCode Marilou Simulator Library (implemented in C++) to Java Using Java Native Access

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## Work Experience

- **Research Specialist @ University of Pennsylvania**, Philadelphia, PA Jul 2017 – Jul 2018
  - Developed programs in medical fields
    - ◆ A program for analyzing diabetes patients' glucose data
    - ◆ A program for handling HL7 format files
- **Teaching Assistant @ University of Pennsylvania**, Philadelphia, PA
  - CIS520 Machine Learning under Dr. Lyle Ungar Sep 2016 – Dec 2016
  - CIT595 Computer Systems Programming under Dr. Insup Lee Jan 2021 – May 2021
- **Software Engineer @ Artificial Intelligence Lab.**, Crosscert Inc., Seoul, South Korea Jul 2013 – Dec 2014
  - Designed/developed a robot SDK for a smartphone robot, Tyche
    - Built a locomotion module for Tyche and a two times faster Avatar module than the previous version
    - Integrated vision modules (Face Recognition, Ball Detection, and Marker Detection)
- **Software Engineer @ Intelligent Robotics Lab.**, Bonavision Inc., Seoul, South Korea Full-Time: Jun 2007 – Jan 2010  
Part-Time: Mar 2012 – Jul 2013, Jun 2010 – Aug 2010, Dec 2010 – Feb 2011
  - Developed intelligent Robot Software Platform (iRSP)
    - User Interface based on Eclipse Rich Client Platform
    - Interface between anyCode Marilou 3D simulator and iRSP
  - Integrated Planning Domain Definition Language (PDDL) Planner with iRSP
  - Created UPnP components for devices (iRobot Create, Microsoft Kinect/ASUS Xtion Pro, Sphero) and android apps

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## Publication

- **Journal Publications**
  1. Susan Kohl Malone, Amy J. Peleckis, Laura Grunin, Gary Yu, **Sooyong Jang**, James Weimer, Insup Lee, Michael R. Rickels, and Namni Goel. "Characterizing Glycemic Control and Sleep in Adults with Long-Standing Type 1 Diabetes and Hypoglycemia Unawareness Initiating Hybrid Closed Loop Insulin Delivery." *Journal of Diabetes Research* 2021, 2021.
  2. Hung Nguyen, **Sooyong Jang**, Radoslav Ivanov, Christopher Bonafide, James Weimer, and Insup Lee. "Reducing pulse oximetry false alarms without missing life-threatening events." *Smart Health*, 2018.
- **Refereed conferences**
  1. **Sooyong Jang**, Insup Lee, and James Weimer. "Improving Classifier Confidence using Lossy Label-Invariant Transformations." In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, pp. 4051-4059. PMLR, 2021.
  2. **Sooyong Jang**, Sangdon Park, Insup Lee and Osbert Bastani, "Sequential Covariate Shift Detection Using Classifier Two-Sample Tests." In *International Conference on Machine Learning (ICML)*, pp. 9845-9880. PMLR, 2022.

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## Skills

Programming Language: Java (5+ years industry experience), Matlab, C/C++, C#, Python, Swift, Ruby, R

DB: MySQL, Mongo DB

Machine Learning library: PyTorch

Last Updated: Jul 20, 2022.