David (Suhyung) Lee

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Research Interests

Machine Learning (Reinforcement Learning, Representation Learning, Transfer Learning), Artificial Intelligence, Natural Language Processing, Computer Vision

Education

University of California, Irvine, CA (GPA: 3.786/4.000) *June 2020 - Present*

- B.S. in Computer Science (2023)
- Specialization: Intelligent Systems
- Selected Completed Courseworks: CS 178 (Machine Learning and Data-Mining), CS 171 (Introduction to Artificial Intelligence), CS 121 (Information Retrieval), CS 122A (Introduction to Data Management)

Edison High School, Huntington Beach, CA *Sept. 2017 - June 2020*

- President, Mu Alpha Theta *Sept. 2018 - June 2020*
- Software Team Head, Robotics Club *Oct. 2018 - June 2020*
- Founder, President, Manager, and Tutor, Peer Tutoring Center *Oct. 2018 - June 2020*

Skills

Computer Languages: Java, Python, SQL, C++, HTML, PHP (server-side), R (elementary), Assembly (elementary)
Software: Android Studio, SolidWorks, Fusion 360, MySQL, Eclipse, Visual Studio Code, Apache Tomcat (elementary)
Foreign Languages: Korean (native)

Ongoing Projects

Mobile Application for Effective Advertising, Developer *April 2020 - Present*

- A system providing customized advertisements to users more effectively and compensating users for watching advertisements

- Developed mobile applications with Android Studio and used a Linux web server and MySQL database to provide service
- Preparing for a start-up (currently at the stage of field testing)

4DOF/6DOF Motion Simulator, Designer, Developer, and Sales Manager *July 2019 - Present*

- Designed and developed new hybrid 4DOF/6DOF (degrees of freedom) motion simulators using SolidWorks
- Lowered the cost tremendously (current market price: ~$20,000 vs. new price: ~$6,000)
- Use Thanos AMC controller to handle telemetry data fetched from software and control actuators
- Place customized orders and manage imported goods, and assemble parts for sales
- Preparing for a start-up (currently at the stage of final testing and developing a website)

Navigation for the Blind, Designer and Developer *July 2019 - Present*

- A navigation system providing directions customized for the blind for easier navigation
- Used Android Studio to develop mobile applications and used a MySQL database and Linux web server
- Using RFID and compass, provide navigation based on the user's precise location and direction
- Detect RFID tags and fetch corresponding data from a database for up-to-date information which is critical for such navigation

American Sign Language to Text/Voice System, Designer and Developer *Aug. 2019 - Present*

- A system detecting sign languages and translating to text and/or voice
- Allows easier communications between signers (mainly deaf/heard of hearing) and non-signers
- Google's Soli system will be applied to enable more precise detection of hand gestures to differentiate the subtleties

EXPERIENCES

Learning Assistant, University of California, Irvine *Sept. 2021 - Present*

- An undergraduate version of teaching assistant (TA)
- Supported CS major-required courses: I&C SCI 6B (Boolean Logic and Discrete Structures) and I&C SCI 6D (Discrete Mathematics for Computer Science)
- Head of the learning assistant team
- Taught and supported 1,800+ students

CS & Math Tutor, University of California, Irvine *March 2021 - Present*

- Tutored courses: ICS 31-33 (Python), ICS 45C (C++), CS 178 (Machine Learning and Data-Mining), CS 171 (Artificial Intelligence), Math 2B (Single-Variable Calculus II), Math 3A (Linear Algebra)

Peer Tutoring Program/Center, Edison High School *Sept. 2018 - June 2020*

- Founder, program manager, and tutor
- Covered most STEM-related Advanced Placement courses (Computer Science A, Computer Science Principle, Calculus AB/BC, Statistics, Physics 1, Biology, Chemistry)
- Supported 80+ students each semester

AWARDS / HONORS

Dean's Honor List, University of California, Irvine *All quarters (Fall 2020 - Present)*
AP Scholar with Distinction Award, College Board *July 2020*
AP Scholar with Honor Award, College Board *July 2019*
AMC 12 Winner Pin, Mathematical Association of America *May 2018*

PATENT

South Korea Patent no. 1020200140704, *Guide and Surrounding Information Provision System Using Label and Electronic Compass*, assigned to Sanghyub Lee, inventors are Suhyung Lee and Sanghyub Lee.