Hello, I'm a computer engineer with machine learning and signal processing background.

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Education

- **Ulsan National Institute of Science and Technology (UNIST)** — Ulsan, South Korea
  Bachelor in Electrical Engineering, Computer Science and Engineering — *Mar 2014 – Feb 2018 (Contribution Award[1])*
  - **GPA of Computer Science and Engineering**: 4.15/4.3 (97.5/100)
  - **GPA of Electrical Engineering**: 3.94/4.3 (95.4/100)
  - **GPA of both majors**: 4.00/4.3 (96.0/100)
  - **Total Grade Point Average**: 3.79/4.3 (93.9/100)

Scholarships

Currency measure: 1 USD = 1,092.30 KRW (13 Dec, 2017)

- **NAVER UNIST Undergraduate Poster Award (NAVER UUPA)** — NAVER Corp., UNIST
  ₩2,500,000 ($2,289) — *Dec 2017*
- **UC Berkeley Entrepreneurship Programme** — UNIST
  ₩9,975,200 ($9,132) — *Jan 2017 – Mar 2017*
- **Living Scholarship** — UNIST
  ₩2,140,000 ($1,959) — *Mar 2016 – Dec 2017*
- **Allowance** — UNIST
  ₩2,517,600 ($2,305) — *Mar 2016 – Dec 2017*
- **National Science & Engineering Scholarship** — Korea Student Aid Foundation
  ₩12,588,000 ($11,524) — *Mar 2016 – Dec 2017*
- **Korea Supercomputing Challenge (KSC 2015)** — KISTI Supercomputing Education Center
  ₩500,000 ($458) (shared by 2 members) — *Oct 2015*
- **HeXATHON** — UNIST, NAVER Corp.
  ₩1,500,000 ($1,373) (shared by 4 members) — *May 2015*
- **Tutor for Engineering Programming I (3 semesters)** — UNIST
  ₩1,200,000 ($1,099) — *Sep 2014 – Dec 2015*
- **Academic Performance Scholarship** — UNIST
  ₩12,660,000 ($11,590) — *Mar 2014 – Dec 2015*

[1] Students who have shown especially good behaviour or enhanced the university's honour can be given a contribution award. The contribution award winner shall be selected by deliberation of the Committee based on recommendations from the head of the school (department) in each school (department).

Experience

- **NAVER UNIST Undergraduate Poster Award (NAVER UUPA)** — NAVER Corp., UNIST
  *Poster presentation of Extreme Low Resolution Activity Recognition: won **1st place*** — *Dec 2017*

- **EgoVid Inc. (http://egovid.com)** — Ulsan, South Korea
  Machine Learning Researcher & Developer — *May 2016 – Present*
  - **Drone Project Manager**: Autonomous drone project using ROS on NVIDIA Jetson TX2 embedded board.
  - **Publication**: M. S. Ryoo, K. Kim and H. J. Yang, "Extreme Low Resolution Activity Recognition with Multi-Siamese Embedded Learning," *AAAI Conference on Artificial Intelligence*, New Orleans, Louisiana, February 2018. *[acceptance rate: 24.6%]*
    https://arxiv.org/pdf/1708.00999.pdf
  - **Realtime Demonstration Running on Embedded Device at CVPR 2017**: Demonstrated my work running on NVIDIA Jetson TX2 and helped my colleague for implementing different demonstration about Video Anonymisation Algorithm at CVPR (Computer Vision Pattern Recognition) 2017 conference.
    https://youtu.be/7jkSum_pj9o?t=25s
  - **UC Berkeley Entrepreneurship Programme**: Visited UC Berkeley Sutardja Center of Entrepreneurship & Technology for 9 weeks to exchange ideas about making a start-up company.
    UC Berkeley News Article: http://scet.berkeley.edu/keeping-personal-machine-learning-meets-egovid/
  - **Attended Conferences**: AAAI Conference on Artificial Intelligence 2017, San Francisco, California, USA
    Asilomar 2016, Pacific Grove, California, USA
    Ubicomp 2016, Heidelberg, Germany
  - **Linux GPU Computing Server Setup for Machine Learning**: Installed Ubuntu Server and programs needed for machine learning and sharing devices with multiple users. VNC remote desktop, Docker and Virtualenv.
  - **Study: Machine Learning and Computer Vision**: Studied machine learning and computer vision with Coursera, Udacity courses.
  - **Study: OFDM Radar Signal Processing**: Studied OFDM radar signal processing for possible future work in radar classification machine learning problem.

- **Private Teaching** — Personal
  Taught Computer Science and Engineering subjects to two university students. — *Mar 2016 – Dec 2016*
  - Object Oriented Programming (C++)
  - Data Structure (C++)
  - Principles of Programming Languages (SML, Rocket, Python)

- **Private Teaching** — Personal
  Taught C Language to a pre-high school student. — *Jan 2016 – Feb 2016*

- **USPTO Patent Information Crawler** — UNIST
  Developed in Python for building custom database. — *Dec 2015 – Apr 2016*

- **Korea Supercomputing Challenge (KSC 2015)** — KISTI Supercomputing Education Center
  *MPI parallel computing competition: won **5th place*** — *Oct 2015*

- **Intel Xeon Phi optimisation, parallelisation education** — Intel Corp.
  Completed the education with practices about OpenMP, Vectorisation, and Intel compiler. — *Aug 2015*

- **Personal Linux Server Buildup** — Personal
  Fedora server buildup for personal use — *Aug 2015*
  - File cloud server
  - Multimedia streaming server
  - Git server
  - Dropbox-like synchronisation server
  - URL shortener
  - Web server

- **WISET Startup Springboard** — UNIST
  Completed the entrepreneurship programme. — *Aug 2015*

- **Private Teaching** — Personal
  Taught mathematics to a high school student. — *July 2015 – Aug 2015*

- **HeXATHON** UNIST, NAVER Corp.
  *QR code waiting system implemented with Raspberry Pi: won **1st place*** *May 2015*
- **UNIST Startup Clinic** UNIST, NAVER Corp.
  Smart home app controlling electric output *Mar 2015*
- **Private Teaching** Personal
  Taught physics to a pre-high school student. *Jan 2015 – Feb 2015*
- **Tutor for Engineering Programming I** UNIST
  Taught the subject for 3 semesters, to 3 university students per each semester. *Sep 2014 – Dec 2015*
- **Private Teaching** Personal
  Taught mathematics to a high school student. *Jul 2014 – Aug 2014*
- **Math Teacher at Private School** Morning of Math
  Problem-solving assistant for high school students. *Jul 2014 – Aug 2014*
- **Patent: Falling out of hair management system** South Korea
  Hair proportion analysis algorithm implemented in CxImage and MFC. *Jan 2013 – Jul 2014*
  - https://patents.google.com/patent/KR20140094301A/en
- **Korea International Science and Engineering Fair (KISEF 2012)** National Science Museum
  Exhibited and Demonstrated PowerUpdater2 at Daejeon Convention Center. *Jan 2012*
- **Korea Olympiad in Informatics (KOI 2011)** National Information Society Agency
  *Demonstrated PowerUpdater2: won **bronze medal**.* *Sep 2011*
- **Sparkware (http://sparkware.co.kr)** Personal
  Personal Website Management (XpressEngine), Program Development (C++, MFC) *May 2010 – Aug 2013*
  - **PowerUpdater, PowerUpdater2**: An updater program that can be customised by users easily with GUI menu.
  - **Waviano**: Playing piano with keyboard using multiple music files.
  - **PowerRegister**: An customisable activation program for Windows application programmers.
  - **DirectoryDateName**: Easily make directory with name containing current date.
  - **Flash programs**: Simple Flash programs.
- **Flash programming** Personal
  Studied and implemented simple Flash programs. *Nov 2004 – Apr 2010*
  - Elementary, middle school teachers used my programs.
  - Managed a blog to release some programs.

Skills and Knowledge

Deep learning, Signal processing, Linux server buildup, Machine integration, Web development, Video editing and filmography, Product design

Languages, Frameworks and Tools

C · C++ · Python · Linux Bash · TensorFlow / Keras (Machine learning) · MPI (Parallel programming) · CUDA (GPU parallel programming) · MATLAB · Git (Version control) · Docker · NVIDIA Jetson TX2 (Embedded board and Linux) · Raspberry Pi (IoT Linux) · MFC (Windows programming) · Java · HTML · PHP · MySQL / Maria DB · Flash action script · Processing · NXT Robot C · Xpress Engine(Website) · Wordpress(Website) · LaTeX