EDWARD YOUN

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SUMMARY

- An electromechanical engineer seeking opportunities in clean energy, autonomous, robotic industry to utilize and further develop the interdisciplinary proficiency in mechatronics, programming, dynamic system control, and engineering R&D.
- Software: C/C++, Python, Arduino, MATLAB, Simulink, AutoCAD, OrCAD.
- Hardware: Circuit design/analysis/implementation, electrical test equipment, microcontroller, A/D sensors.
- Passed FE exam for Electrical/Computer Engineers; June 2017. EIT certificate pending.

EDUCATION

Gyeongsang National Univ., S.Korea *M.S. Mechanical Engineering, focus in System Dynamics and Control* 08/2016

University of California, Los Angeles *B.S. Electrical Engineering, focus in Computer Engineering* 03/2013

EXPERIENCE

UCLA Smart Grid Energy Research Center – *Undergraduate Research Assistant* 06/2012 – 03/2013

- Designed and implemented a unique ground fault circuit interrupter—which was installed across UCLA campus in 10+ electric vehicle charging stations certified by Los Angeles Department of Water and Power—and co-authored the related IEEE conference paper.
- 200+ hours of experience in testing and developing electromechanical hardware.

Korea Military Academy – *Sergeant* 12/2013 – 08/2015

- Managed intranet servers and provided department-wide technical support including multimedia editing and electronics troubleshooting.
- Facilitated communication among the US and South Korean military officers during 2015 Key Resolve Combined Military Exercise as a military-accredited language specialist.

Gyeongsang National University System Control Lab – *Graduate Researcher* 08/2013 – 08/2016

- Integrated an automotive active suspension and brake control algorithms, and designed a 14-DOF simulation model for detailed performance evaluation. Completed in three semesters and was awarded a full-tuition scholarship.
- Trained undergraduate students on Arduino I/O through a 4-week intensive course.

Independent Contractor (Academic Tutor and Language Interpreter) 12/2016 – Present

- Teach a wide range of fundamental subjects including Calculus, Statistics, Circuits, Programming, Physics, and SAT/ACT; Have raised one or more letter grades on 9 students.
- Facilitate Korean/English communication among medical professionals and patients.

SIDE PROJECTS

Water Distribution Controller – Gyeongsang National University System Control Lab

- Designed a device to monitor and regulate the distribution of 20 tons of water over 5,000m^2 greenhouse.
- With $500 material cost, increased the annual revenue of the local strawberry farm by nearly $100K per unit.

NATCAR – UCLA

- Built a miniaturized track-following vehicle using electromagnetic distance sensors and a line camera.
- Applied skills: PID control, 3D printing, PWM motor control, analog signal processing, microcontroller programming.

Micromouse – UCLA

- Designed an autonomous robot that explores an unmapped maze and finds the shortest path to the destination.
- Applied skills: PD control, PCB design, H-bridge motor control, flood-fill algorithm, A/D signal processing, microcontroller programming.

PUBLICATIONS

[1] E. Youn, M. Khan, and I. Youn. "**Integrated Effect of Attitude Motion Control and Electronic Stability Control based on 14-DOF Nonlinear Full Vehicle Model.**" *The International Journal of Automotive Technology*, Submitted: 01/2017.

[2] I. Youn, M. Khan, N. Uddin, E, Youn, and M. Tomizuka. "**Road Disturbance Estimation for the Optimal Preview Control of Active Suspension Systems Based on Tracked Vehicle Model.**" *The International Journal of Automotive Technology*, Vol. 18, Issue 2, pp 307-316, 04/2017.

[3] I. Youn, E. Youn, M. Khan, L. Wu, and M. Tomizuka. "**Combined Effect of Electronic Stability Control and Active Tilting Control based on Full-Car Nonlinear Model.**" *The International Association for Vehicle System Dynamics Conference*, Graz, Austria, 08/2015.

[4] I. Youn, L. Wu, E. Youn, and M. Tomizuka. "**Attitude Motion Control of the Active Suspension System with Tracking Controller.**" *The International Journal of Automotive Technology*, Vol. 16, No. 4, pp. 593−601, 03/2015.

[5] R. Tchamna, E. Youn, and I. Youn. "**Combined Control Effects of Brake and Active Suspension Control on the Global Safety of a Full-Car Nonlinear Model.**" *Vehicle System Dynamics*, Vol. 52, Supplement 1, 02/2014.

[6] C. Chung, E. Youn, J. Chynoweth, C. Qiu, C. Chu, and R. Gadh. "**Safety Design for Smart Electric Vehicle Charging with Current and Multiplexing Control.**" *IEEE SmartGridComm Conference*, Vancouver, Canada, 10/2013**.**