SEOK LEE

Deliver quality in uncertain environment:

Uncertainty is everywhere. In the engineering field, there are often no defined requirements or clear direction.Trial and error is a working way to discover unknowns. I learned and developed hands-on project management where uncertainty is the norm. At the same time, the exposure to the research environment where there's minimal guidance to demand creative outputs fortifies me. In both sides of the world, I am able to deliver high quality deliverable where uncertainty rises and falls.

Leadership is meant to enable others:

Leadership is not something you can sandbox- fail, improve, and repeat because the human emotion is involved. I noticed that leadership may end up performance degradation adversely when it's exercised wrong.I envisioned leadership as an art of harmonizing humane emotion while creating an environment to deliver the project deliverable spontaneously. The formal education in MBA enabled me to utilize few tools to enhance my past earned leadership skills to enable others to achieve the group's career goal.

Solve complex problem:

My passion lies in developing solutions for complex systemic issues. The journey to prove the proposed solutions at system level makes feel rewarding and that is where my excitement arises.

Open minded in global setting:

Exposure to the global presence in working in European region enlightened me to carry a holistic view of corporate operation. I see why one size fits all strategy wouldn't work because of different labor resources, locality, and custom. Specialized in corporate globalization in MBA certainly broadens and affirms my collective view from international assignment.

Experienced in data driven approach:

Acquiring insights from data is easier said than done. The data size is unwelcoming and overwhelms at first. Data mining is monotonous and tedious. Insufficient data requires long waiting and change of data acquisition method. At then end, frustration arrives when the conclusive pattern or an insight isn't seen. Unskillful coding and visualization will add stress under time demanding project. However, the delight after discovering patterns or estimating / forecasting next behavior endures hectic prepping work. I have gone through in both engineering or business analytic areas.

A versatile in engineering field:

Following engineering specialties can be meshed in different disciplines:

- Mathematical Modeling for System

- Data Analytic Driven Decision Making

- Virtual Simulation to Mimic Real World

- Design Estimator to Predict Nonlinearity

- Model Based Approach to Develop Readable and Simplified s/w Code

- AI, Vision Sensing for Pattern Recognition, Path Following

CONTACT INFO

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TOOLS

Data analytics: R | Python | MATLAB

Engineering: Simulink | CarSIM | AMESim | Targetlink | CAN | C++ | Tensorflow | OpenCV | Keras | Unreal

LICENSE

Professional Engineer(Mechanical Eng- Thermal & Fluid, MI license # 6201066645)

Last updated on 2021-09-09.

EDUCATION

10/2017–08/2021 **University of Illinois- Urbana-Champaign**
MBA-Business analytics | Global challenge — Urbana, IL

01/2005–04/2010 **University of Michigan at Dearborn**
M.S. in Mechanical Engineering — Dearborn, MI

1998–2005 **Korea Aerospace University**
Bsc. in Mechanical Engineering — Korea

INDUSTRY EXPERIENCE

06/2021–present **Canoo**
Senior Team Lead - Electronics — Torrance, CA, USA

Electronic requirement definition for future products| Benchmark, initial market research, pinpoint technology gap, and share insight for corporate ADAS and infotainment strategy

04/2019–06/2021 **Ford Motor Company**
Research Engineer- Driving Assist Technology — Dearborn, MI, USA

Mathematical Modeling for the Virtual Sensor Using Ray Tracing | Virtual Sensor Visualization in Unreal | Detailed Simulation Scene Generation in CarSIM |Co-Sim Framework for Vehicle Dynamics | 3d Scene Generation | Object Detection Using Virtual Camera

11/2015–04/2019 **Ford Motor Company**
Autonomous Chassis Controls Engineer — Dearborn, MI, USA

MBD s/w Architecture Definition | Software (s/w) Testing on Autonomous Chassis Application | Development of Large Scale Modeling | Driving Simulation | MIL Modeling

04/2014–11/2015 **Cummins Engine Company**
Diagnostic Team Leader — Columbus, IN, USA

- A team lead role to develop calibration contents for diesel emission controls diagnostics for Heavy Duty application. The work involved in emission test cell testing, vehicle testing, simulation unit testing, and data analysis.

07/2011–
04/2014

Cummins Engine Company
Technical Specialist
Darlington, UK

- Led aftertreatment diagnostic calibration development for Euro VI 4.5L/6.7L Cummins midrange engine
- Led/managed s/w HIL testing & maintenance team for engine/aftertreatment system

10/2007–
07/2011

Cummins Engine Company
Senior Control Engineer
Eindhoven, the Netherlands

- A liaison to support s/w development for a Dutch truck OEM (DAF trucks, NV). The main jobs to validate emission controls s/w, support diagnostics interface development, and fine tuning through various testing (engine cell, vehicle, HiL)
- Led/support aftertreatment J1939 CAN definition/diagnostic fault handling architecture requirement

ACADEMIC RESEARCH EXPERIENCE

2005–
2010

Graduate Research Assistant
University of Michigan
Dearborn, MI

- Brake Modeling and Design of Low Mass Vehicle (LMV)
- Hydraulic Circuit Modeling of ABS

PUBLICATIONS

2008

Investigation of Sliding-Surface Design on the Performance of Sliding Mode Controller in Antilock Braking Systems
IEEE Vehicular Technology, Volume 57 issue 2
Taehyun Shim, Sehyun Chang, **Seok Lee**

2007

Technical report- Brake design and modeling of Low Mass Vehicle
IAVS (Institute of Advance Vehicle System), University of Michigan-Dearborn
Seok Lee

2006

Development of a Brake System for Lightweight Vehicle
IMECE2006-15437, pp. 229-238; 10 pages
Seok Lee , Taehyun Shim , Byung-Kwan Cho