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 the unknowns. I have learned and developed hands-on project management where uncertainty is the norm. Exposure to the research environment, where there's minimal guidance to demand creative outputs, fortifies me. In both sides of this field, I am able to deliver high quality, even where uncertainty rises and falls.

Leadership is meant to enable others:

Leadership is not something you can sandbox. It is a fail, improve, and repeat situation because human emotion is involved. You may end up with performance degradation adversity when leadership is exercised ineffectively. I envision leadership as the art of harmonizing humane emotion and efficient project delivery, simultaneously. My formal education in MBA has enabled me the ability to utilize my past learned 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 is rewarding and that is when my professional ability shines.

Open minded in global setting:

Exposure to the global presence, working in the European region, enlightened me with a holistic view of corporate operation. It has enabled me to see why a one-size-fits-all strategy wouldn't work due to different labor resources, localities, and customs. Specializing in corporate globalization in MBA certainly broadens and affirms my collective view stemming from international assignments.

Experienced in data driven approach:

Acquiring insights from data is easier said than done. The data size is unwelcoming and overwhelming at first. Data mining is monotonous and tedious. Insufficient data requires long waiting and a change of the data acquisition method. Frustration can arise when the conclusive pattern or an insight is not seen. Unskillful coding and visualization will add stress to time demanding projects. However, the delight after discovering patterns or estimating / forecasting the next behavior helps to endure the hectic prep work. While going through both engineering and business analytic areas, I have achieved this experience.

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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☎ +1 734-890-6340

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)

Udacidty Self driving car #5R7RH56H

🎓 EDUCATION

University of Illinois
10/2017–
08/2021
MBA-Financial Mngt|Value chain Mngt|Managerial
Economics&Business Analysis|Strategic leadership &
Mngt|Business Analytics|Global Challenge in Business

📍 Urbana, IL

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

Korea Aerospace University
1998–
2005
Bsc. in Mechanical Engineering   📍 Korea

💼 INDUSTRY EXPERIENCE

Canoo
06/2021–
present
Senior Technical Team Lead - Electronics   📍 Torrance, CA, USA

· Upon graduating MBA, I wanted to explore broader spectrum of vehicle
integration work. I am interested in how a vehicle is designed,
developed, tested, and launched. How a company constantly please
consumer's eyes and pocket, but another fails to meet consumer's
appetite.

· I also wanted to experience how a new company becomes an
incumbent. Therefore, I chose to make a transition to a start-up.

· The day to day job includes, but not limited to conducting engineering
Electronic requirement definition for future products- Benchmark, initial
market research, pinpoint technology gap, share insight, and set the
roadmap for corporate ADAS, On Board Charger (OBC), telematics, V2X
and infotainment strategy

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

· I developed interface to take ray tracing radar signals into vector
transform to feed to the s/w for driving simulation. Later, I developed 3d
scenes in urban parking using 3d gaming engine (aka Unreal).

· At the end, I integrated 3d scenes and developed sensor interface to
test out certain traffic scenario (highway following) to test out various
ECU controls s/w codes in vehicle system level.

· Before exit, I do demonstrate the s/w testing frame work to other
engineers for training purpose.

11/2015–04/2019

Ford Motor Company
Autonomous Chassis Controls Engineer   ● Dearborn, MI, USA

- I tested in house developed chassis controls s/w against requirement using MATLAB/Simulink tool. Later, I refactored developed s/w to conform ISO 26262 standard. Later, for testing purpose, I developed the simplified, but approximated mathematical models to run s/w code under real time simulation frame work.
- At the end, I managed to integrate refactored s/w into a driving simulation environment to conduct repetitive testing.
- This entire work got 3 Ford internal awards which led me focused on more simulation work for my next move.

04/2014–11/2015

Cummins Engine Company
Diagnostic Team Leader   ● Columbus, IN, USA

- I led team of calibration engineers. The calibration contents are related to thermal management for controlling catalytic event. I always looked for how to make our team better and thriving spontaneously by demonstrating lead by example. I let team members taste different management style- servant management.
- I provided training, coordinated vehicle/ engine testing works to meet technical regulation requirement while I did conduct data mining, data analysis to check the calibration performs to approve quality contents in the field operation.

07/2011–04/2014

Cummins Engine Company
Technical Specialist   ● Darlington, UK

- I worked in an international site in UK as an expat after Dutch assignment. I did diagnostics development work including s/w validation at vehicle level and calibration contents development to meet European emission regulation. The work also involved data mining and analysis of the large fleet data set.

10/2007–07/2011

Cummins Engine Company
Senior Control Engineer   ● Eindhoven, the Netherlands

- I started as a controls engineer which handled electronics integration work with emphasis on harness design, ECU validation, and CAN (Controller Area Network) signal definition.
- I spent handful time for s/w validation and testing at HiL (Hardware in the Look). This work was carried at an international site, Dutch truck company (DAF trucks, NV). I adapted cultural difference quickly while embracing and valuing Dutch culture to harmonize between two entities.

🔬 ACADEMIC RESEARCH EXPERIENCE

Graduate Research Assistant

2005–
2010

University of Michigan   📍 Dearborn, MI

· I came to the US for study abroad because I won full tuition supported research assistant scholarship to work on mathematical modeling and simulation in automotive application.

· Although the school is a regional school and relatively unknown to public, I did my best to produce fruitful outcome.

· At the end, I was able to publish 2 papers and 1 technical report before graduation.

📄 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