# 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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## 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

*Last updated on 2022-01-03.*

## EDUCATION

10/2017–08/2021 **University of Illinois- Urbana-Champaign**
MBA-Financial Mngt|Value chain Mngt|Managerial Economics&Business Analysis|Strategic leadership & Mngt|Business Analytics|Global Challenge in Business
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 Technical Team Lead - Electronics — Torrance, CA, USA

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

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