

## Education

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MSc. in Mechanical Engineering	California State University Los Angeles (GPA: 3.98/4.0)	<b>June '16</b>
BS in Mechanical Engineering	King Fahd University of Petroleum & Minerals	<b>Jan '14</b>

## Top Skills

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- Accident Reconstruction
- Blackbox Data Analysis
- Simulation & Animation
- ADAS & Autonomous Vehicles
- Vehicle Dynamics
- Photogrammetry/Video Analysis

## Additional Training

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- SAE, Accident Recon, Autonomous Vehicle and ADAS, September 2021
- SAE, Brake Control Systems: ABS, TCS, and ECS, March 2021
- SAE, Driver Distractions, December 2020
- PC-Crash Training Course (Advanced), February 2020
- SAE, Photogrammetry and Analysis of Digital Media, June 2019
- California Motorcyclist Safety Program (CMSP), June 2019
- Human-Vehicle-Environment (HVE) Forum (EDSMAC/EDCRASH Training), February 2019
- SAE, Applied Vehicle Dynamics, December 2018
- SAE, Applying Automotive EDR Data to Traffic Crash Reconstruction, November 2018
- SAE, Side Impact Occupant Safety, November 2018
- SAE, Vehicle Crash Reconstruction: Principles and Technology, August 2018
- Southwestern Association of Technical Accident Investigators (SATAI) Conference, July 2018
- Tesla EDR Training, June 2018
- Collision Safety Institute – Crash Data Retrieval (CDR) Technician Course, June 2018
- I-CAR Collision Repair Course, May-June 2018
- Digital Photography- California Center for Digital Arts, May 2018
- PC-Crash Training Course, January 2018
- Engineering Dynamics Corporation – Reconstruction Training Course, January 2018
- CAARS 2017 3rd Quarter Training, August 2017

## Engineering Experience

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**Veracity Engineering** Los Angeles, CA **Founder/Principal Engineer** Dec '22 - *Present*

- PC-Crash simulations (multibody, pedestrians, motorcycles, tractors, and trailers)
- Accident reconstruction analyses - Event Data Recorder, Time-Distance, Avoidability, Traffic Controls, etc.
- Crash tests analyses (NHTSA, NASS, IIHS)

**Waymo** (Google Self-Driving Car) San Francisco, CA **Sr. System Safety Engineer** Aug '25 – *Present*

- Lead safety analyses, risk assessments, and requirement definition to inform design, operations, and mitigations
- Drive System Safety integration, ensuring regulatory compliance and effective field performance

**Cruise** (Self-Driving Cars) San Francisco, CA **Sr. Product Safety Engineer** Nov '21 – April '25

- Lead investigations into safety concerns, near misses, and events from the autonomous vehicle operating fleet
- Responsible for root cause analysis, and generating findings and resolution actions from post-mortem activities
- Investigate and analyse auto accidents to determine fault, collision severity, vehicle and impact dynamics

**Momentum Engineering Corp.** Los Angeles, CA **Sr. Forensic Engineer** Dec '16 – Nov '21

- Conduct in-depth collision analysis and accident reconstruction to identify the collision causation factors
- Inspect damaged vehicles and accident sites. Extract data from crash data recorders, use engineering principles to simulate accidents. Prepare courtroom exhibits and formalize legal opinions for depositions and trial testimonies

- Research and participate in crash testing, attend conferences and continuously learn by taking related SAE classes
- Responsible for project management including budgeting, client communication, and training of new employees
- Published five technical papers in two years, involving vehicle dynamics testing hardware like SlamStick & VBOX accelerometers, high speed cameras, GPS dataloggers, etc.

**CB&I (Chicago Bridge & Iron Company) Canton, MA                      Intern                      Jun '15 - Sept '15**

- Designated as a mechanical engineering intern to the AP1000 Nuclear Power Plant team of engineers
- Evaluated and recalculated alarm set points for safety instruments installed in the power plant to ensure safety
- Modified E&DCRs (Engineering & Design Coordination Reports), involving P&IDs, per federal and state licensing

**Weatherford Dammam, Saudi Arabia                      Co-op                      Jun '12 - Jan '13**

- Developed multidisciplinary skills by gaining hands on experience on various service tools
- Assembled and pressure-tested hydraulic production packers before dispatching them to oil & gas wells
- Completed several technical courses to better understand and attain theoretical knowledge in petroleum engineering

**Honda Dammam, Saudi Arabia                      Intern                      July '11 - Sept '11**

- Overhauling, repaired and replaced engine parts like batteries, alternators, compressors, spark plugs and pumps
- Worked with the diagnostic team at the service center to identify problems in automobiles, and work on solutions

## Patents

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- “Autonomous Vehicles Detect and Report Degraded States of Peers”
  - US Application No. 18/467,542 | Filed September 14, 2023

## Publications

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- “Characterizing Regenerative Coast-Down Deceleration in Tesla Model 3, S, and X,” SAE Technical Paper, 2020
- “Empirical Study of the Braking Performance of Pedestrian Autonomous Emergency Braking,” SAE Technical Paper, 2020
- "Testing and Analysis of Lane Departure Warning and Lane Keeping Assist System," SAE Technical Paper, 2021
- "Accuracy and Validation of Geotab GPS Fleet Tracking Devices," SAE Technical Paper 2021-01-0908, 2021
- "Evaluating the Accuracy and Reliability of Bicycle GPS Devices," SAE Technical Paper 2021-01-0882, 2021

## Accomplishments

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- SAE Certified Accident Reconstructionist (2020)
- Dean’s List (Special Recognition in Graduate Studies 2016)
- President of the Institution of Engineering & Technology (IET-KFUPM Chapter)
- Integrated regenerative braking in an electric Go-Kart for a project in grad school
- Built an autonomous waste sorting machine to sort four kinds of waste materials into distinct containers