Exponent®
Engineering & Scientific Consulting

Ben Kumar

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Professional Profile

Throughout his career, Mr. Kumar has developed his professional skills both domestically and internationally, in private and public sectors. His expertise can help to assist clients with projects of various scales and levels of maturity, as he has spent time working at automotive startups and established vehicle manufacturers. He brings deep technical expertise related to the design, development, and testing of emerging technologies, such as Automated Vehicles and Advanced Driver Assistance Systems (ADAS). His knowledge extends to areas such as systems engineering, cybersecurity, and automated vehicle safety. He also leverages his experience with federal automated vehicle policy to bring valuable insight regarding the deployment of automated vehicles.

Mr. Kumar has extensive experience in systems engineering in the context of emerging automotive technology. As a Senior Systems Engineer at Daimler Truck North America (DTNA), he owned the development of several electronic control units for the autonomous Cascadia platform. He also designed an updated systems engineering framework to account for underlying processes critical to the success of the program. His work at DTNA covered vehicle applications such as cybersecurity, diagnostics, and network architectures.

Mr. Kumar has also spent time in the federal government as an Automation Safety Regulatory Engineer at the National Highway Traffic Safety Administration (NHTSA). He helped draft and review various notices and reports related to vehicle automation from SAE Level 2 through SAE Level 4. From this experience he possesses a thorough understanding of current verification & validation (V&V) approaches for automated vehicles as well as the federal rulemaking process. During this time, he also served as a liaison to committees under SAE's On-Road Automated Driving (ORAD) Task Force.

As a leadership trainee in Germany at Daimler AG, Mr. Kumar conducted feasibility studies for the adaptation of new technology platforms for markets beyond the United States. He also helped introduce automated testing tools for customer verification of next-generation telematics platforms.

Prior to his time at Daimler, Mr. Kumar completed internships at automotive startups, such as Tesla and Aurora. Some highlights from these roles include designing & testing prototype dampers, optimizing cooling solutions for high-performance autonomous vehicle computers, and performing root-cause analysis for complex electrical failures.

Academic Credentials & Professional Honors

M.S., Mechanical Engineering, Stanford University, 2020

B.S., Mechanical Engineering, California Baptist University, 2018

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Prior Experience

Automation Safety Regulatory Engineer, NHTSA, 2024-2025

Senior Autonomous Systems Engineer, Daimler Truck North America, 2021-2024

Trainee: Inspire-The Leaders' Lab, Daimler AG, 2020-2021

Mechanical Engineer, Aurora Innovation, 2020

Mechanical Engineering Intern, Aurora Innovation, 2019

Chassis Engineering Intern, Tesla, 2018

Dimensional Engineering Intern, Tesla, 2017

Manufacturing Engineering Intern, PCC Structurals, 2016

Manufacturing Engineering Intern, PCC Structurals, 2015

Professional Affiliations

SAE International