



Winner of the 2024 SJSU Industry-Sponsored Research Award Dr. Anil Kumar



Dr. Anil Kumar's Research Contributions and Industry Collaborations

Since joining San José State University in 2015, Dr. Anil Kumar has led impactful research in human factors, automation, and mobility, securing significant industry and government funding. In 2024, he received two industry-funded projects from Honda Research Institute (HRI):

- "Wellbeing and Trust in Automated Mobility" – \$35,003
- "Pilot Workload Assessment in EVTOL Operations" – \$41,351

To date, Dr. Kumar has secured \$268,945 in research funding from HRI and \$19,701 from Noble, an Aptar Pharma company. Additionally, he has obtained \$3.38 million in external grants as a Principal Investigator (PI) or Co-PI from major agencies, including the Department of Energy (DOE), University of California Office of the President (UCOP), Mineta Transportation Institute, and SJSU ERFA.

Advancing Student Research and Industry Readiness

Dr. Kumar's industry collaborations have provided valuable hands-on experience for students, training them in advanced research methodologies such as:

- Physiological data collection (heart rate monitoring)
- Pupillometry (eye tracking)
- Neurophysiological measures (galvanic skin resistance, FNIRS)
- Qualitative data collection methods

Students have gained experience in the entire research process, from literature reviews to data analysis and report writing. Many of the cutting-edge research tools, such as functional near-infrared spectroscopy (FNIRS), are not typically available in university labs, making these projects critical for student development.

Continued next Page.....



Anil Kumar, ISRA, cont.

Career Impact and Industry Connections

The collaboration with HRI has led to direct job opportunities for students. Over the past five years, two students initially joined HRI as interns and were later offered full-time positions. Today, both work at HRI and mentor current MS Human Factors students, reinforcing the academic-industry pipeline.

Research Publications and Ongoing Work

Dr. Kumar's work with HRI has resulted in one journal paper and two conference papers, with more publications in progress:

- Hunter, J.G., et al. (2023). *The future of mobility-as-a-service: trust transfer across automated mobilities, from road to sidewalk. Frontiers in Psychology, 14, p.1129583.*
- Mehrotra, S., et al. (2023). *Trust in Shared Automated Vehicles: Study on Two Mobility Platforms. TRBAM-23-04456.*
- Kumar, A.R., et al. (2022). *How Do Different Cueing Strategies Affect Drivers' Perceived Workload? HFES 63rd International Annual Meeting, Atlanta, GA.*

Currently, eye-tracking data is still being processed for the first project, while data from the second project is in the early analysis stage. Three additional journal papers and multiple conference papers are planned for submission upon completion.

A Mutually Beneficial Collaboration

Dr. Kumar's partnership with HRI not only supports industry research initiatives but also enriches student learning, equipping them with real-world experience and career opportunities. His work continues to have a lasting impact on human factors research, mobility innovation, and student success.