

# STEPHAN LEMMER

stephan@lemmer.us

## EDUCATION

---

- MS** University of Texas at San Antonio, Applied/Industrial Mathematics May 2015
- BS** Rose-Hulman Institute of Technology, Mechanical Engineering May 2012  
Graduated Magna Cum Laude  
Minored in Robotics, Computer Science, Spanish Language and Culture

## RESEARCH EXPERIENCE

---

**University of Michigan**, Ann Arbor, MI 2017 to Present  
**Graduate Student**, Corso Research Group

- Developing algorithms for 3D scene reconstruction.

**Southwest Research Institute**, San Antonio, TX 2012 to 2017  
**Research Engineer**

- Automated Class VIII Truck, including drive-by-wire interface, sensor integration, and software installation and calibration.
- Developed and implemented test procedures based on SAE Standards for Dedicated Short-Range Communication (DSRC) Radios.
- Applied machine learning and outlier detection algorithms to predict traffic delays and flag anomalous conditions.
- Supported integration of sensors onto multiple military and commercial vehicles.

**University of Denver**, Denver, CO 2011  
**Undergraduate Researcher**

- Worked in University of Denver's Collaborative Mechatronics Lab on multiple robotics systems for urban search and rescue, primarily in mechanical systems.

## PUBLICATIONS

---

### *Conference Papers*

Sturgeon, P.K., Mott, C.M., Lemmer, S.J., and Brown, M.A. "Subtle Anomaly Detection in the Global Dynamics of Connected Vehicle Systems," Proceedings of ITS World Congress, October 10-14, 2016.

Lemmer, S.J., "Loosening the Reins: Decentralized Allocation of Resources and Tasks for Heterogeneous Multi-Agent Systems," Proceedings of XPONENTIAL 2016, May 2-5, 2016.

## **PATENTS**

---

Walker, J. D., Pomerening, D.J., Kozak, K.C., Mueschke, N.J., et al., “Edge-On Armor System with Translating and Rotating Armor Panels,” United States Patent, No. 15963881. Patent Pending.

Lemmer, S.J., Mott, C.M., Avery, P.A., “Autonomous Team Formation and Task Negotiation Among Unmanned Vehicles,” United States Patent, No. 15289831. Patent Pending.

Lemmer, S.J., “Protective Case Adapted to Support a Smartphone,” United States Patent, No. 62297097.

## **PRESENTATIONS AND INVITED LECTURES**

---

**Poster Presentation**, “Loosening the Reins: Decentralized Allocation of Resources and Tasks for Heterogeneous Multi-Agent Systems,” XPONENTIAL 2016, May 2-5, 2016.

**Paper Presentation**, “Detection of Subtle Sensor Degradation Through Machine Learning,” University of Texas at San Antonio Architecture, Business, Engineering, and Science Student Conference, April 2015.