

MARK E. STRICKLAND

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Data Scientist

An applied scientist with proven contributions to artificial intelligence and machine learning research. Professional goal is to apply machine learning expertise to solve difficult problems in a commercial setting, specifically application-level implementation.

Target Roles: Data Scientist that specializes in applied machine learning using datasets focused on products and services.

TECHNICAL PROJECT LEADERSHIP:

- Reduces complex technical concepts to basic ideas for the sake of providing clarity and knowledge to customers and key decision makers
- Coaches and guides the company, customers, and key decision makers in gaining stronger technical knowledge of products and services
- Consistent focus on impactful details in the development of new products and presenting supportive detail to win the support of the company and customers
- Flexibility within demanding projects, situations, and working with customers with meticulous needs
- Drives a collaborative approach to Data Science and related technical development

SCIENCE EXPERTISE:

- Autonomous vehicle research published at an International Conference on Robotics and Automation (ICRA 2018), Brisbane, Australia; received Travel Grant award
- Collaborative assistance to the Research Advisor in securing funding \$500K+ for autonomous vehicle research from Intel/Mobileye, Toyota, and Bosch
- Effective analysis in support of advanced control law development for experimental F/A-18 aircraft (HARV) augmented with thrust vectoring and forebody strakes, leading to the NASA Outstanding Service Award

EXPERIENCE

ARIZONA STATE UNIVERSITY, Tempe, AZ

2016-Present

Doctor of Philosophy Student, Computer Science - Research and Teaching Associate duties in the Interactive Robotics Laboratory of Professor Heni Ben Amor with a focus on Artificial Intelligence, Deep Learning Networks, and Autonomous/Assisted Vehicles.

- Autonomous vehicle research was conducted and published at an International Conference on Robotics and Automation (ICRA 2018), Brisbane, Australia; received Travel Grant award.
- Poster presentation of current Ph.D. thesis research including autonomous driving and robustness results at the 2018 meeting of Center for Embedded Systems (NSF I/UCRC).
- Oral Presentation, including poster Q&A, of Deep Predictive Modeling research at the Southwest Robotics Symposium at Tempe, AZ in January 2018; this earned a nomination for Best Abstract Award.
- Collaborative assistance was provided to the Research Advisor in securing funding (\$500K+) for autonomous vehicle research from Intel/Mobileye, Toyota, and Bosch.
- Bayesian Convolutional LSTM was conceived, implemented, and applied to vehicle collision prediction in support of Ph.D. thesis research.

Education Sabbatical and Career positions held unrelated to the target objective

1996-2015

UNIVERSITY OF CHICAGO, Chicago, IL

1995-1996

Systems Programmer

- Computer resources were managed for The James Franck Institute including a wide range of hardware and OS including SunOS, Solaris, Irix, HP-UX, Linux, Windows, MacOS.
- A comprehensive backup system was designed and implemented for 30+ institute computers, using DAT jukebox and bash scripting.

17311 East Alta Loma, Fountain Hills, AZ 85268

- Successful implementation of basic network security measures for institute computers and associated Physics and Chemistry faculty, in collaboration with university-wide IT organization.

NASA LANGLEY RESEARCH CENTER, Hampton, VA

1991-1994

Aerospace Engineer

- Mathematical models/simulations of experimental F/A-18 aircraft were developed from wind-tunnel test data.
- Control system candidates were analyzed for improved yaw control at high angle-of-attack.
- Effective analysis in support of advanced control law development for experimental F/A-18 aircraft (HARV) augmented with thrust vectoring and forebody strakes.
- NASA Outstanding Service Award was secured for work on Advanced Forebody Strakes.
- The 5-year service award was secured for successful efforts at NASA Langley.

EDUCATION, SKILLS, & AWARDS

DOCTOR OF PHILOSOPHY STUDENT, COMPUTER SCIENCE, Arizona State University, Tempe, AZ 2016-Present

- Research and Teaching Associate in the Interactive Robotics Laboratory of Professor Heni Ben Amor with a focus on Artificial Intelligence, Deep Learning Networks, and Autonomous/Assisted Vehicles.
- Ph.D. Thesis Research: Bayesian Convolutional LSTM techniques were conceived and implemented for modeling vehicle interactions using sequences of sensor images as well as proprioceptive state and action data; planned development of advanced datasets of simulated collisions with sequence data to enhance state-of-the-art in Deep Predictive Modeling and vehicle collision detection.

JURIS DOCTOR, Northwestern University School of Law, Chicago, IL 1999

- Managing Editor, Journal of Criminal Law & Criminology

BACHELOR OF SCIENCE, AEROSPACE ENGINEERING, University of Cincinnati, Cincinnati, OH 1991

TensorFlow	Keras
Theano	PyTorch
Python	R
Unix shell	C
C++	Objective-C
Swift	Java
OpenCV	NLP
GANs	Research

NASA Outstanding Service Award for Advanced Forebody Strakes Work.
Nomination for Best Abstract Award for Deep Predictive Modeling Research.

PUBLICATIONS

Strickland, Mark, Georgios Fainekos, and Heni Ben Amor. "Deep Predictive Models for Collision Risk Assessment in Autonomous Driving." arXiv preprint arXiv:1711.10453 (2017) (also Proc. of ICRA2018, May 21-25, 2018).

Messina, Michael D., Mark E. Strickland, Keith D. Hoffler, Susan W. Carzoo, W. Thomas Bundick, Jessie C. Yeager, and Fred L. Beissner Jr. "Simulation Model of the F/A-18 High Angle-of-Attack Research Vehicle Utilized for the Design of Advanced Control Laws," NASA-TM-110216 (1996).