Armin Hadzic

(859) 396-8870 • armin.hadzic@uky.edu • www.arminhadzic.com
armin-hadzic

Research Interests

Developing **deep learning** methods to address challenges in visual ambiguity and occlusion from a single vantage point source using a continuous image streams. More generally, I am interested in **deep learning, computer vision, remote sensing, reinforcement learning, artificial intelligence,** and **robotics**.

Education

University of Kentucky
Master of Science in Computer Science, GPA – 4.0 *2018-Present*
Advised by Associate Professor Nathan Jacobs

University of Kentucky
Bachelor of Science in Computer Engineering, GPA – 3.8 *2016*
Graduated Magna Cum Laude

University of Kentucky
Bachelor of Science in Electrical Engineering, GPA – 3.8 *2009-2013*
Graduated Magna Cum Laude, Minor in Computer Science

Dean's List Fall 2010 to Spring 2013.

Publication

[1] Weilian Song, Scott Workman, Armin Hadzic, Xu Zhang, Eric Green, Mei Chen, Reginald Souleyrette, and Nathan Jacobs. "FARSA: Fully Automated Roadway Safety Assessment". In: *2018 IEEE Winter Conference on Applications of Computer Vision (WACV)* (March 2018).

Professional Experience

Research

Machine Perception Intern **2019-Present**
Johns Hopkins University Applied Physics Labortory *Laurel, MD*
- Advised by Ryan Mukherjee and Dr. Gordon Christie.
- Modeling characteristics of displaced communities for disaster relief efforts, using regression and recognition neural networks and overhead imagery.

Research Assistant **2018-Present**
UK Computer Vision Lab *Lexington, KY*
- Advised by Associate Professor Nathan Jacobs.
- Developing Natural Language Processing (NLP) temporal convolutional and attention-based neural network models to estimate firm economic performance using public SEC text reports.

Volunteer Machine Learning Research Assistant **2017-2018**
UK Computer Vision Lab *Lexington, KY*
- Automated the US Road Assessment Program (usRAP) road safety assessment using a deep convolutional neural network to directly estimate roadway safety based on street-level panorama images, reducing evaluation time to milliseconds per image.
- Integrated the roadway safety estimator into a GPS vehicle routing system to enhance navigation with the capability to identify a balanced, safe and fast, driving route.

Industry

Software Development Engineer **2017-2018**
Belcan Engineering Group Inc. *Lexington, KY*
- Developed, maintained, and tested a jet engine diagnostic and fault resolution system, saving over $100,000 by automating engine maintenance diagnostics.
- Integrated and streamlined a legacy cross-platform build system with modern development tools, mitigating build errors and reducing development time.

Embedded Software Engineer **2016-2017**
Belcan Engineering Group Inc. *Lexington, KY*
- Streamlined the user interface and reduced diagnostic time of jet engines by identifying, isolating, and purging Onboard Maintenance System inefficiencies and defects.

Software Test Engineer **2015-2016**
Belcan Engineering Group Inc. *Lexington, KY*
- Designed and implemented Control and Diagnostic System Verification and Validation Tests for 4 P&W Turbofan Jet Engines.
- Discovered mission critical control logic, software, and documentation defects through root-cause analysis, informal testing, regression testing and system testing; leading to best in class, safe, and high performance jet engines.

Founder and Software Developer **2015**
Changing Table App *Lexington, KY*
- Developed an Android application to aid users in locating men's washrooms containing changing tables in order to alleviate the stress of searching for baby friendly environments.

Software Engineering Co-op **2013-2014**
Tempur Sealy International Inc *Lexington, KY*
- Pioneered and developed a GUI and 3D topography mapping application to visually analyze large datapoint datasets, generating streamlined product testing, seamless user experience, and refined product quality.

Software Engineering Intern **2012**
Johnson Controls Inc *Florence, KY*
- Designed and implemented a software algorithm for streamlined Automated Guided Vehicle (AGV) routing, saving $57,000 per year in scrap reduction and transportation costs.

Technical skills

Programming Languages	C/C++, Python, Verilog, Java, MIPS/IA32 Assembly, Make, LaTeX
APIs/Libraries	PyTorch, Scikit-Learn, Numpy, Pandas, Keras, Tensorflow, OSMNX
Operating Systems	Unix/Linux, Windows, OSX, Android
Development Environments	Linux Toolchain, Jupyter, PyCharm, Visual Studio, Android Studio, Xilinx