Kirk R. Busche

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EDUCATION:

Ph.D. Student in Electrical and Computer Engineering   **August 2016 - Present**
University of Illinois Urbana-Champaign
College of Engineering
GPA: 3.94
Relevant Coursework: Pattern Recognition, Digital Signal Processing II, Vector Space Signal Processing, Topics in Image Processing, Random Processes, Optimization for Computer Vision, Digital Imaging

Bachelor of Electrical Engineering   **September 2012 - May 2016**
Minors: Product Design, Math
University of Minnesota-Twin Cities
College of Science and Engineering
Honors: Summa Cum Laude with High Distinction

RESEARCH INTERESTS:

- Efficient sensor fusion, particularly for autonomous vehicles

- Real-time video tracking and segmentation

- Intuitive exploitation of sequential nature of videos for perception tasks

AWARDS

- Qualcomm Innovation Fellowship 2018 Finalist

RESEARCH EXPERIENCE:

RADAR-Video Fusion *(UIUC)*   November 2017 - Present

- Working with Professor Minh Do to develop fusion algorithms to generate high resolution depth maps from RADAR, video, and egomotion data for autonomous vehicle applications

Video Segmentation *(UIUC)*   January 2017 - Present

- Working with Professor Minh Do to develop online, unsupervised video object segmentation algorithm for the DAVIS dataset using clustering of dense optical flow (partnership with Sandia National Laboratories)

VLSI Design and Evaluation of a Massive MIMO Detection Algorithm *(UMN)*   September 2015 - May 2016

- Worked with Professor Gerald Sobelman on surveying and evaluating proposed massive MIMO detection algorithms and implementing one in Verilog for VLSI (project for Honors Thesis)

PRIOR WORK EXPERIENCE

Research Assistant *(UIUC)*   August 2017 - Present

Graduate Student Intern *(Sandia National Laboratories)*   September 2018 - Present

Graduate Student in Critical Systems Department *(Southwest Research Institute)*   May 2017 - August 2018

Introduction to Electronics Lab Teaching Assistant *(UIUC)*   August 2016 - December 2017