Carl Hildebrandt

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Education

2018 – Present   PH.D. candidate in Computer Science, University of Virginia, USA
                 Advisor: Dr. Sebastian Elbaum
2013 – 2016   B.ENG. in Computer Engineering, University of Pretoria, South Africa

Research Interests

Intersection of autonomous systems, and software analysis. Focusing on the safety of autonomous systems through the validation and verification of their software.

Experience

2018 – Present   Research Assistant, Less Lab, University of Virginia
                 URL: less-lab-uva.github.io
2017 – 2018   Research Assistant, Nimbus Lab, University of Nebraska
                 URL: nimbus.unl.edu

Honours & Awards

2018   **IROS Best Paper Award on Safety, Security, and Recue Robotics**: Fire-Aware Planning of Aerial Trajectories and Ignitions.
2020   **Distinguished Artifact Award**: Feasible and Stressful Trajectory Generation for Mobile Robots

Publications & Talks

Conference Publications

2020   Hildebrandt C, Elbaum S, Bezzo N. *Feasible and Stressful Trajectory Generation for Mobile Robots*. In2020 ACM SIGSOFT International Symposium on Software Testing and Analysis Proceedings (ISSTA) 2020 July 22. - **Distinguished Artifact Award**

2020   Hildebrandt C, Elbaum S, Bezzo N. *Blending Kinematic and Software Models for Tighter Reachability Analysis*. In2020 IEEE/ACM 42nd International Conference on Software Engineering: New Ideas and Emerging Results (ICSE-NIER) 2020 July 6.

2018   Beachly E, Detweiler C, Elbaum S, Duncan B, Hildebrandt C, Twidwell D, Allen C. *Fire-aware planning of aerial trajectories and ignitions*. In2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2018 Oct 1 (pp. 685-692). IEEE. - **Best Paper Award**

2020   Hildebrandt C, Elbaum S, *Mixed Reality Testing*.

PATENTS APPLICATIONS

2020   **Carl Hildebrandt**, Jefferson Griscavage, Victor Aquino, Melony Bennis , and Tien Comlekoglu, Vuetech Health Innovations LLC, "Systems and Methods for Safety, Security and Well-Being of Individuals", Patent US63066296

TALKS

2020   **Carl Hildebrandt** "Feasible and Stressful Trajectory Generation for Mobile Robots", International Conference on Software Engineering, July 7 2020

2020   **Carl Hildebrandt** "Blending Kinematic and Software Models for Tighter Reachability Analysis", International Symposium on Software Testing and Analysis, July 21, 2020

Teaching

2020   Lab Designer and Teaching Assistant
        Robotics for Software Engineers, The University of Virginia, Spring 2020

2016   Head Teaching Assistant
        Data Structures and Algorithms in Java, The University of Pretoria, First Semester 2016

2015   Head Teaching Assistant
        Program Design in C++, The University of Pretoria, Second Semester 2015

2015   Teaching Assistant
        Data Structures and Algorithms in Java, The University of Pretoria, First Semester 2015

2014   Teaching Assistant
        Introduction to Programming in C, The University of Pretoria, Second Semester 2014

Achievements

2019   National Club Field Hockey Champions - UVA
2017   Half Iron Man
2017   Comrades Ultra Marathon
2016   Summited Kilimanjaro
2012   National u18B Hockey Team