

Elisabeth A. Strunk

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Objective

Research in development of safety-critical systems, particularly system reconfiguration, the use of natural language in critical software, software verification, and failure analysis of software systems.

Education

UNIVERSITY OF VIRGINIA, Charlottesville, Virginia
Doctor of Philosophy, Computer Science, May 2005

UNIVERSITY OF VIRGINIA, Charlottesville, Virginia
Master of Science, Computer Science, May 2002

VANDERBILT UNIVERSITY, Nashville, Tennessee
Bachelor of Science (Summa cum Laude), Mathematics and Computer Science, May 2000

Experience

Research Scientist, University of Virginia	May 2005 – present
Graduate Research Assistant, University of Virginia	August 2000 – May 2005
Graduate Teaching Assistant, University of Virginia	August 2000 – May 2001
Intern, Electronic Commerce Dept, Bridgestone/Firestone Tire Sales	Summer 1999, Summer 2000
Teaching Assistant, Vanderbilt University	October 1999 – May 2000

Teaching

Digital Avionics Systems research seminar Spring 2004

Service and Awards

- 2003 – 2004 Outstanding Computer Science Graduate Research Award (University of Virginia Department of Computer Science)
- 2004 – 2005 Ballard Fellowship (University of Virginia)
- Founding Graduate Co-Chair, UVA chapter of the ACM-W

Publications

Book Chapters

- Knight, John C., and Elisabeth A. Strunk
Achieving Critical System Survivability Through Software Architectures
Architectures for Dependable Systems II, Springer, 2004.

Refereed Conference Publications

- Strunk, Elisabeth A., John C. Knight, and M. Anthony Aiello
Assured Reconfiguration of Fail-Stop Systems
International Conference on Dependable Systems and Networks (DSN 2005), Yokohama, Japan (June 2005): to appear.
- Greenwell, William S., Elisabeth A. Strunk, and John C. Knight
Failure Analysis and the Safety-Case Lifecycle
IFIP Working Conference on Human Error, Safety and System Development (HESSD), Toulouse, France (August 2004)
- Strunk, Elisabeth A., and John C. Knight
Assured Reconfiguration of Embedded Real-Time Software
International Conference on Dependable Systems and Networks (DSN 2004), June 2004.
- Wasson, Kimberly S., John C. Knight, Elisabeth A. Strunk, and Sean R. Travis
Tools Supporting the Communication of Critical Application Domain Knowledge in High Consequence Systems Development
The 22nd International Conference on Computer Safety, Reliability and Security (SAFECOMP 2003), Edinburgh, Scotland, September 2003.
- Knight, John C., Elisabeth A. Strunk, and Kevin J. Sullivan
Towards a Rigorous Definition of Information System Survivability
DISCEX 2003, Washington, DC, April 2003.

Unrefereed Publications

- Strunk, Elisabeth A.
Reconfiguration Assurance in Embedded System Software
Ph.D. Dissertation, May 2005
- Strunk, Elisabeth A. and Xiang Yin
Assured Reconfiguration: Specification, Proofs, and Example
Technical Report CS-2005-05, University of Virginia Dept. of Computer Science, April 2005
- Strunk, Elisabeth A., John C. Knight, and M. Anthony Aiello
Distributed Reconfigurable Avionics Architectures
23rd Digital Avionics Systems Conference, Salt Lake City, UT (October 2004)
Selected Best Paper in the Software Engineering Track
- Knight, John C., Elisabeth A. Strunk, William S. Greenwell, and Kimberly S. Wasson
Specification and Analysis of Data for Safety-Critical Systems
22nd International System Safety Conference, Providence RI (August 2004)
- Greenwell, William S., John C. Knight and Elisabeth A. Strunk
Risk-Based Classification of Incidents
IRIA 03 Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 03), Williamsburg, VA, September 2003.
- Strunk, Elisabeth A., and John C. Knight
Functionality/Dependability Co-design in Real-Time Embedded Software
Workshop on Co-design for Embedded Real-time Systems (CERTS'03), July 2003.
- Strunk, Elisabeth A.
The Role of Natural Language in a Software Product

M.S. Thesis, May 2002

- Hanks, Kimberly S., John C. Knight, and Elisabeth A. Strunk
Erroneous Requirements: A Linguistic Basis for Their Occurrence and an Approach to Their Reduction
Software Engineering Workshop, NASA Goddard Space Flight Center, December 2001.
- Hanks, Kimberly S., John C. Knight, and Elisabeth A. Strunk
A Linguistic Analysis of Requirements Errors and Its Application
University of Virginia, Dept. of Computer Science, Technical Report CS-2001-30, November 2001.
- Elisabeth Strunk
Java & NT Authentication,
Dr. Dobb's Journal, 26(2):45-48, February 2001.