CfP: 3rd Workshop on formal reasoning about Causation, Responsibility, and Explanations in Science and Technology (CREST 2018)

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CALL FOR PAPERS

3rd Workshop on formal reasoning about Causation, Responsibility, and Explanations in Science and Technology (CREST 2018)

April 21, 2018 | Thessaloniki, Greece | https://www.react.uni-saarland.de/crest2018/

A satellite event of ETAPS 2018

Today’s IT systems, and the interactions between them, become increasingly complex. Power grid blackouts, airplane crashes, failures of medical devices and malfunctioning automotive systems are just a few examples of incidents that affect system safety. They are often due to component failures and unexpected interactions of subsystems under conditions that have not been anticipated during system design and testing. The failure of one component may entail a cascade of failures in other components; several components may also fail independently. In the security domain, localizing instructions and tracking agents responsible for information leakage and other system attacks is a central problem. Determining the root cause(s) of a system-level failure and elucidating the exact scenario that led to the failure is today a complex and tedious task that requires significant expertise. Formal approaches for automated causality analysis, fault localization, explanation of events, accountability and blaming have been proposed independently by several communities - in particular, AI, concurrency, model-based diagnosis, software engineering, security engineering and formal methods. Work on these topics has significantly gained speed during the last years. The goals of this workshop are to bring together and foster exchange between researchers from the different communities, and to present and discuss recent advances and new ideas in the field. Topics of interest include, but are not limited to:

- foundation of causal reasoning about systems in the philosophy of sciences
• languages and logics for causal specification and causal analysis
• definitions of causality and explanation
• causality analysis on models, programs, and/or traces
• fault localization
• causal reasoning in security engineering
• causality in accident analysis, safety cases and certification
• fault ascription and blaming
• accountability
• applications, implementations, tools and case studies of the above

Submission

Submissions should be prepared in EPTCS style with a length of up to 15 pages. All contributions must be submitted via the EasyChair submission web site for CREST 2018.

All contributed papers will be reviewed by at least 3 PC members. Revised versions of selected papers will be published as formal post-workshop proceedings in the Electronic Proceedings in Theoretical Computer Science (EPTCS; approval pending). At least one of the authors of an accepted paper needs to register for the workshop and present the paper in order for it to be included in the post-workshop proceedings.

Important Dates

• abstracts due on Feb 2, 2018
• papers due on Feb 7, 2018
• notification on March 9, 2018
• workshop date April 21, 2018
• papers for post-workshop proceedings due June 8, 2018


Calls for Papers Science of Security Validation and Verification Foundations