

Preface

We were pleased to present this CEUR-WS volume, the Proceedings of the 9th Bayesian Modeling Applications Workshop (BMAW-12), held in Catalina Island, California, USA, August 18th, 2012, as a workshop of the 28th Conference on Uncertainty in Artificial Intelligence (UAI 2012).

Bayesian networks are now a powerful, well-established technology for reasoning under uncertainty, supported by a wide range of mature academic and commercial software tools. They are now being applied in many domains, including environmental and ecological modeling, bioinformatics, medical decision support, many types of engineering, robotics, military, financial and economic modeling, education, forensics, emergency response, surveillance, and so on. This workshop solicited submissions describing such real world applications, whether as stand-alone BNs or where the BNs are embedded in a larger software system. We suggested authors address the practical issues involved in developing real-world applications, such as knowledge engineering methodologies, elicitation techniques, defining and meeting client needs, validation processes and integration methods, as well as software tools to these support these activities.

This year we encouraged the submission of papers addressing the workshop theme of *Temporal Modeling*. Recently communities building dynamic Bayes networks (DBNs) and partially observable MDPs (POMDPs) are coming to realize that they are applying their methods to identical applications. Similarly POMDPs and other probabilistic methods are now established in the field of Automated Planning. Stochastic process models such as continuous time Bayes networks (CTBNs) should also be considered as part of this trend. Adaptive and on-line learning models also fit into this focus.

This year all submissions were full length papers peer-reviewed by at least two reviewers. Of the 18 submissions, 11 papers were accepted for oral presentation, with 10 to appear in these proceedings. The papers include an interesting range of methods, models and applications. More specifically, the proceedings contain 2 papers on dynamic fusion, with the applications being goal-based people tracking, and maritime domain awareness; two papers on dynamic topic models; a number of papers looking at discrete stage models, with applications from feedback control, oil drilling, analyzing HIV mutations and forecasting kindergarten student reading; and papers on spatial-temporal models, applied to environmental management and search query and data centre logs.

The presentations were accompanied by questions and discussions throughout, plus authors also attended a poster and demonstration session, which provided an opportunity for more detailed discussion and networking. In addition, this year the workshop concluded with a panel and session on the emerging trends in applications modelling and planning for future workshops.

We are grateful to all the program committee members for their excellent work in refereeing the papers within a very tight schedule. We also appreciate the organizational support provided by the main UAI conference. In particular, we thank the UAI 2012 conference general chair, Fabio Cozman, the workshop chair, Ruslan Salakhutdinov and the local arrangements chair, David Heckerman.

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