# Research Summary

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I am a graduate student at Stanford University. My research interests include abstraction in planning, scheduling and dynamic systems.

In previous work, I studied abstraction in a constraint-based planning system (Lansky & Getoor 1995). Our planner automatically constructs abstraction networks. These networks, called *localizations*, improve the performance of the planning system by partitioning the planning problem into subproblems (which may overlap).

I have also done work on approximation in online scheduling domains (Getoor *et al.* 1997). In this work, we are interested in devising appropriate heuristics for certain *classes* of scheduling instances; in this sense we are trying to find abstract constraints that are useful for different subsets of input domain.

Finally, I am interested in abstraction in dynamic belief networks. In particular, I am studying methods for efficiently reasoning at varying levels of granularity, appropriate to each state variable's rate of change. These methods should also take into account the dynamic context in focussing the choice of granularity. I am also interested in extensions of dynamic belief networks to continuous time domains.

## References

Getoor, L.; Ottosson, G.; Fromherz, M.; and Carlson, B. 1997. Effective redundant constraints for online scheduling. In *Proc. AAAI'97.*

Lansky, A., and Getoor, L. 1995. Scope and abstraction: Two criteria for localized planning. In *Proc. IJCAI'95*, 1612–1618.