A First Rate Research Laboratory... 

The Aerospace Corporation’s Information Sciences Research Office is engaged in basic computer science research and applications of advanced computing techniques to space systems. We currently have 20 researchers, excellent computing facilities and a charter to grow. We offer a mix of interesting problems, considerable freedom to choose your own course, and encouragement to publish. We seek nothing less than to be one of the best computer science research laboratories.

Our research program now consists of work in the following areas:

Artificial Intelligence Applications...There are too many people needed to fly a satellite. Major aspects of its control and task need to be automated. What is it that all those people do, and why is it so hard to characterize their decision procedures?

Program verification...We have one of the few serious program verification system developments in the country, and we expect to make code level verification a practical reality.

Performance engineering...Explicit representation of performance requirements and behavior and tools to make use of information are essential automating the quantitative aspects of software design.

Program synthesis...For some classes of programs, it should be possible to synthesize them directly from specifications and examples. Let the computer figure out the representations and applicable algorithms.

Automated VLSI synthesis...We’re trying to design very low power circuits, reduce the design time and ensure correctness of large custom circuits. Tools to support these activities are crucial.

Spacecraft computer architecture concepts...Reasonable sized computers are just now going into satellites. Combined with the availability of customized production of VLSI circuits, there’s a wide open field now for choosing what functions to put on board the satellite and how to carry them out.

You should have a Ph.D. and have demonstrated ability to carry out research. If these topics interest you and you are capable of leading high quality research, please send your resume to: Dr. Stephen Crocker, Director of the Information Sciences Research Office. Responses from principals only, please.

The Aerospace Corporation

Theo Pavlidis

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