



Universidad Nacional de San Luis  
República Argentina

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# Transforming RSL into PVS

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Asesor: Chris George

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Tesis de Maestría en Ingeniería del Software





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## **Abstract**

Transformation from one formal language to another is a challenge, specially when they differ conceptually. In that case these differences become a challenge and we are obliged to solve theoretical problems before the transformation can be done. We describe in this report some of these problems and how they can be overcome, illustrating the problematic issues using two formal languages: RSL and PVS. Both —PVS and RSL— are formal languages that can be used to do formal specifications of complex software systems. And although both languages have some similarities they differ in aspects that are crucial —RSL is a much bigger language than PVS and moreover has several constructs that make the languages substantially, and in some cases, conceptually different (partial as well as total functions against only total ones, etc.). The description here includes solutions to some of these problems as well as the details of the design of a tool that automatically translates RSL into PVS. There is an added benefit to this namely the fact that although both methods have a prover tool, PVS's is free, so a translator from RSL to PVS would allow a specification written in RSL to be proved in PVS using the freely available PVS prover.

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