MATTHEW SLOCUM

CV

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As a recent graduate from Portland State University (BS CS) I am looking to start my career in the computer science industry solving challenging and interesting problems. I am looking for a career that will continue to facilitate gaining new technical ability. My ideal employer is ethical, stable, and performing interesting work that benefits the community.

As the Capstone project for my degree I built, an open source, prototype, formal verification system (Rustproof) for the rust compiler. Rustproof leverages predicate transformer semantics to generate a weakest precondition for a given function. This weakest precondition is used to generate a verification condition which is then solved by an SMT solver. This process results in a formal proof of function correctness. This project has sparked my interest in the power and safety provided by the rust language. It has also introduced me to the field of formal proofs for program correctness.

During my education I also explored the fields of AI and cryptography. I constructed a system (TauNet) that is a decentralized, encrypted, Raspberry PI based communications network. This project was released open source. To learn some of the principles of AI I constructed an artificial chess player that leveraged a state based negamax search to find an preform the best possible move; My AI won 2nd place in a tournament.

I am a strong believer in the open source community. I feel that it provides a productive platform for discussion on and development of useful software. The open source community generally attracts motivated and intelligent people; when these kinds of people can reach a concensus great ideas are born.

I am strong learner with excellent programming skills. Personally I am pleasant, respectful, and ethical. In my personal life I collect, solve, and invent mechanical puzzles. This has been a lifelong pastime of mine and has taught me problem solving and persistence skills.

I would love to join your team,
Matthew Slocum