Theodore Butler

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/theodus

Education

Drexel University – Philadelphia, PA — September 2016 - Present
Bachelor of Science in Computer Engineering
Cumulative GPA: 3.4
Anticipated Graduation: June 2021

Publications

- Paul Liétar, Theodore Butler, Sylvan Clebsch, Sophia Drossopoulou, Juliana Franco, Matthew J. Parkinson, Alex Shamis, Christoph M. Wintersteiger, and David Chisnall. snmalloc: a message passing allocator. *2019 ACM SIGPLAN International Symposium on Memory Management*

Experience

Aquent LLC – Remote — May - November 2020
Research Software Development Engineer at Microsoft
- Contributed to Project Verona, a research programming language to explore the concept of concurrent ownership
- Designed a novel system for managing back-pressure within the language runtime
- Verified the correctness of the runtime back-pressure design using TLA+

Siemens Corporate Technology – Munich, Germany — April - September 2019
Performance-Driven Parallel Software Research and Development Co-op
- Designed and implemented a framework for measurement and analysis of Industrial Internet of Things (IIoT) protocols
- Maintained IIoT protocol gateway capable of connecting devices on DDS, WAMP, MQTT, and OPC-UA networks
- Developed and presented demonstrations of factory automation technologies using image recognition

Microsoft Research Limited – Cambridge, UK — April - September 2018
Research Intern
- Implemented high performance networking of distributed system framework for secure multi-party computation
- Designed and integrated in-memory representation of distributed key-value store
- Implemented a low-overhead system for sending encrypted network data between untrusted environments and secure hardware enclaves
- Automated continuous integration testing for multiple projects

Projects

Pony Programming Language – GitHub — April 2016 - Present
Core Team Member
- Create and maintain standard library packages
- Facilitate RFC process for proposing major language changes
- Review Pull Requests to reduce bugs introduced and ensure best practices
- Write documentation and tutorials for users of the language and standard library
- Maintain tools for release automation and distribution

F1TENTH LiDAR Based Autonomous Vehicle Control – Drexel University — September 2020 - May 2021
- Developed a platform for autonomous vehicle control research at Drexel University, based on a 1/10 scale racecar
- Designed and fabricated optical sensors for measuring the angular velocity of wheels
- Integrated multiple complex sensors and elecromechanical systems, utilizing sensor fusion and PID control

Skills

Programming Languages & Tools: Pony, C, C++, Idris, Go, Python, Rust, Shell, VHDL, TLA+
Operating Systems: Various Linux Distributions, Windows (Linux Subsystem)