

Stephen Timmel

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Research interests include concurrent algorithm design and system-level code optimization

Education

- > Attending Masters Program at Virginia Tech 2017 – present
 - o Researching GPU Accelerated Finite Element Methods
- > Completed bachelor's degree in Math at Princeton University 2013 – 2017
 - o Senior thesis with Dr. Robert Tarjan and Dr. Maria Chudnovsky
 - o Computer Science Minor
 - o 3.35 GPA
- > Enrolled part-time in Johns Hopkins University during high school 2011 – 2013
- > Research Project under UMD Professor Dr. Larry Washington 2011 – 2013

Research Experience

- > Currently designing a GPU Accelerated Atmospheric Solver 2018
 - under Dr. Tim Warburton
- > Developed a concurrent binary search tree algorithm 2016 – 2017
 - for an undergraduate thesis
- > Researched an application of Schreier Coset Graphs to Campanology 2011 – 2013
 - as a high school research project

Programming Experience

- > GPU optimization
 - o Currently researching GPU Accelerated Finite Element Methods
 - o Implemented GPU Accelerated Elliptic Solver in Virginia Tech Course
- > C/Assembly
 - o Completed a Systems Programming class taught in both C and Intel Assembly
 - o Implemented Arduino programs at C and AVR assembly level
 - o Designed Arduino code to facilitate spoofing a 500 kHz signal controlling the power steering unit in a car.
- > C++
 - o Refactored a 10000 line sensor resource manager for Northrop Grumman written in C++
- > Matlab
 - o Conducted quantum simulations in Matlab
- > Java
 - o Taken two programming classes at Princeton taught in Java
- > Python
 - o Self-taught Python programmer
- > Bash
 - o Self-taught intermediate Bash programmer
- > Functional Programming
 - o Completed Princeton course taught in Ocaml

Volunteer/Work Experience

- > Research Assistant in Applied Math at Virginia Tech 2018 – present
- > Teaching Assistant at the Virginia Tech Math Emporium 2017
 - o Provided assistance to several thousand students enrolled in six courses
- > Interned at the National Security Agency
 - o Implemented test software for the Tactical Secure Voice standard 2017
to support development of NATO wireless communication systems
 - o Designed prototype encryption system for use by the next generation 2016
of miniaturized satellites (CubeSats)
 - o Conducted research both in cloud computing and in traffic flow over 2013
the Internet
- > Interned at Northrop Grumman
 - o Conducted quantum simulations to test the effectiveness of a 2015
qubit design
 - o Refactored 10,000 line Sensor Resource Manager for VADER 2014
(airborne radar detection system)
- > Employed on campus as Student Technology Consultant 2014 – 2017
 - o Point of Contact for over 400 students
 - o Ran audiovisual components for campus presentations
 - o Technical liaison with Firestone Rare Books and Special Collections
- > Employed at Princeton as Numismatic Archivist 2015 – 2017
- > Equipment team lead for PEF (Princeton Evangelical Fellowship) 2013 – 2017

Achievements

- > Semifinalist in Columbia's SIPA cyber-policy competition 2016
 - o Best Oral Presentation Award
- > Placed in top ten in Princeton Hackathon 2014
 - o Designed procedurally generated terrain algorithm for a computer game

Personal Interests

- > Numismatics
- > Hiking
- > Quantum Computing
- > Go (rank ~10 kyu)