Nathan A. Sobotka

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Education

University of Pennsylvania, School of Engineering & Applied Science | Philadelphia, PA   May 2024
Candidate for Bachelor of Science in Engineering
Major / Minor: Computer and Information Science / Mathematics
Major / Cumulative GPA: 4.00 / 3.97

Employment

REU Intern | University of Pennsylvania   May – August 2022
- Compiler verification as a part of the Vellvm Project under Professor Steve Zdancewic. This involved writing proofs in the Coq Proof Assistant, automated tests in QuickChick, and unit tests in LLVM. We are also developing a Coq monad library for public use.

Weingarten Tutor | University of Pennsylvania   January – June 2022
- CIS-160: Mathematical Foundations of Computer Science
- MATH-312: Linear Algebra

Projects

Superscalar Pipelined Processor   January – May 2022
- Implemented a superscalar pipelined processor in Verilog. The processor was created from scratch with a partner as part of the course CIS-471. As per course rules, the GitHub repository can be shared recruiters if requested.

Publications

Publication in Journal of Emerging Investigators   January 2020
- "The Effects of Various Plastic Pollutants on the Growth of the Wisconsin Fast Plant," Journal of Emerging Investigators (project supervised by Karissa Baker). Work done in 2017-2018

Medical Research | Minneapolis VA Medical Center   March 2018
- Data management, 2nd author on paper titled, "Percutaneous Creation of a Central Iliac Arteriovenous Anastomosis for the Treatment of Arterial Hypertension"

Volunteer Experience

Hospital Research | *Minneapolis VA Medical Center*   June – August 2018
- Communicated with cardiology patients and families, shadowed cardiologists as they went about their daily duties, and learned about doctor patient interactions

Tennis Coaching | *Fred Wells Tennis and Education Center*   August 2016 – March 2020
- Mentored and coached underprivileged children in lessons and competitive play

Leadership

Aerospace Balloon Team Software Lead   May 2022 – Now
Captained Varsity Tennis Team and Science Team | Saint Paul Academy   March 2015 – June 2020

Skills & Interests

Programming Languages (years): Java (2), Python (1), C (1), Verilog (1), Coq (1)