

# DAVID HASHE

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6798@dhashe.com

## EDUCATION

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**Carnegie Mellon University**, Pittsburgh, PA **December 2019**

B.S. Computer Science, Minor in Machine Learning Unweighted GPA: **3.92**

*Coursework:* 15-411 Compilers, 15-312 Prog Languages, 17-355 Prog Analysis, 15-857 Perf Modeling  
10-405 ML with Large Data, 36-402 Adv Data Analysis, 15-295 Competition Prog

**University of North Texas, Texas Academy of Mathematics and Science**, Denton, TX **May 2016**

Unweighted GPA: **4.00** SAT: **2400**

*Coursework:* Computer Architecture, Compilers, Systems Programming, Assembly Language

## WORK EXPERIENCE

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**Hudson River Trading**, New York, NY **August 2020-Present**

*Core Developer*

**Hudson River Trading**, New York, NY **June-August 2019**

*Core Intern*

- Optimized job scheduler to improve data locality (C++)
- Wrote process to improve access to logs (Python)

**Applied Predictive Technologies**, Arlington, VA **May-August 2018**

*Software Engineering Intern*

- Investigated data privacy and proposed rule changes to improve product while keeping privacy
- Contributed to both a microservice-based C# and SQL backend and a Typescript/React frontend

**Praetorian**, Austin, TX **May-August 2017**

*Application Security Intern*

- Worked on system for automated security vulnerability discovery through static analysis
- Assisted with penetration tests for web applications and Internet of Things devices

**Advanced Micro Devices (AMD) Research**, Austin, TX **June-August 2015, May-August 2016**

*Co-op Engineer*

- Extended a cycle-accurate computer architecture simulator (gem5) to support virtualization-accelerated simulation of more detailed cache and processor models (C++ and Python)
- Diagnosed and solved race conditions introduced during multithreading of gem5

## TEACHING AND RESEARCH

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**15-131 Great Practical Ideas in CS**, Pittsburgh, PA **Fall 2017, Fall 2018, Fall 2019**

*Teaching Assistant, Head TA (2019)*

- Taught first-year students about vim, emacs, unix shell, git, and package managers

**15-150 Functional Programming**, Pittsburgh, PA **Spring 2019**

*Teaching Assistant*

- Taught recitation section about functional programming in SML

**Composable Systems Laboratory, Carnegie Mellon**, Pittsburgh, PA **Spring 2019**

*Undergraduate Researcher*

- Worked on the Monotonicity Coeffects project to develop a type system for monotone functions

**Computer Systems Research Laboratory, University of North Texas**, Denton, TX **Sep 2014-May 2016**

*Undergraduate Researcher*

- Extended trace-driven function-level cache simulator to handle multilevel split caches
- Investigated the efficiency of GPU and RISC CPU co-processors for processing-in-memory

## LEADERSHIP AND VOLUNTEERING

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**CMU Puzzlehunt Club** **Fall 2017-Spring 2020**

- Staff and problem writer for semiannual CMU Puzzlehunts

**SCS4ALL** **Fall 2016-Fall 2019**

- Led "Roadshow" presentations for CS outreach to middle and high school students

## TECHNICAL SKILLS

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|----------|-------|--------|---------|-----------|
| • Python | • C#  | • SQL  | • Linux | • x86 asm |
| • C++    | • SML | • Lisp | • git   | • Emacs   |

## HONORS AND AWARDS

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CMU SCS Dean's List **2016, 2017, 2018, 2019** Intel STS Research Report Award **2016**

Eagle Scout, Gold Palm **2016** USA Computing Olympiad Gold Division **2015**