

Daniel Melcer

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Education

Northeastern University

Boston, MA

Khoury College of Computer Sciences • GPA: 4.0

September 2017 - Present

Candidate for a Bachelors of Science in Computer Science, Minors in Math and Physics

May 2021

Coursework Algorithms (graduate), Computer Systems (graduate), Object Oriented Design, Linear Algebra
Building Extensible Systems, Logic and Computation, Group Theory, Number Theory

Awards Honors Program, Dean's List

Activities NUHacks, Times New Roman Satire Magazine

Skills

Languages Python, Java, C#/VB.NET, Typescript, Javascript, SQL, Racket, Solidity, C/C++

Frameworks PyTorch, REStEasy, React, Sequelize, CUDA

Tools Git, Oracle, Postgres, AWS

Experience

Khoury College of Computer Sciences • Northeastern University

Boston, MA

Fundamentals of Computer Science 1 Course Assistant

January 2018 - Present

- Provided guidance to students during lab sections on topics such as functional programming and effective testing
- Held scheduled office hours to assist students with program design concepts taught during lecture
- Evaluated student work and wrote detailed feedback about program architecture and implementation

Griffiss Institute • Air Force Research Laboratory

Rome, NY

Research Co-op

January 2019 - June 2019

- Researched a novel reinforcement learning exploration method by combining tree search and intrinsic curiosity
- Implemented a mechanism to learn an optimal policy faster when partial environment dynamics are known

Forward Thinking Systems

Jericho, NY

Software Development Intern

May 2018 - August 2018

- Detected features such as camera blockages present in image thumbnails with Python and Keras
- Devised a Typescript Alexa application to answer common customer queries about their fleet
- Collaborated with Poland office on C# application to view and export archived video from an external disk
- Migrated a password-based Java SOAP application to REST and implemented an OAuth2 token flow
- Created a real-time dashboard in VB.NET to report statistics on current support queues and SLA percentages

Brookhaven National Laboratory

Upton, NY

Summer Research Intern

July 2016 - August 2017

- Constructed a Django website to improve operational efficiency while administering on-site network switches
- Wrote a Python desktop application to manage, sort, and search a database of over 1,000 ethernet ports
- Increased speed of search for mathematical constants by over 100x with CUDA

Projects

Invertible Programming Language • Northeastern University

Boston, MA

Language Extension • github.com/Inverse-Lang/Inverse-Lang

January 2018 - April 2018

- Extended Racket programming language and standard library to allow for definition of invertible functions
- Utilized algebraic rules to automatically generate inverses of functions composed of other invertible functions

Smart Contract Applications • Personal Project

December 2017 - January 2018

Connect Four via Smart Contract • connect.danielmelcer.net

- Learned how to develop applications to run on globally distributed Blockchain platforms such as Ethereum
- Programmed a Solidity smart contract allowing people to initiate, join, and play Connect Four games
- Built a corresponding website to interface with the contract if a Web3 browser or extension is installed