Daniel Melcer

21 Nicola Lane, Nesconset, NY 11767 | (631) 682-0560
daniel@melcer.dev | melcer.dev | github.com/dmelcer9 | linkedin.com/in/dmelcer9/

Education

Northeastern University | Boston, MA   *September 2017 - May 2021*
Khoury College of Computer Sciences | GPA: 4.0
Candidate for a Bachelors of Science in Computer Science, Minors in Math and Physics

Coursework	Algorithms (graduate), Systems (graduate), Programming Languages (graduate), Verified Compilers
	Building Extensible Systems, Theory of Computation, Group Theory, Number Theory, Linear Algebra
Awards	Northeastern University President's Award, Honors Program, Dean's List
Activities	NUHacks, Times New Roman Satire Magazine

Skills

Languages	Python, Typescript, Java, C#/VB.NET, SQL, PHP, Javascript, Racket, Solidity, C/C++/CUDA
Tools	React, PyTorch, Symfony, Git, MySQL, Postgres, AWS

Experience

Datto | **Software Development Intern** | Norwalk, CT   *January 2020 - May 2020*
- Contributed to a Symfony web application that enables thousands of Managed Service Providers to support their clients by managing Datto products through a unified web portal
- Developed microservices to scalably generate and email reports to customers
- Strengthened the internal style guide with best practices for SQL queries and Typescript type design
- Integrated end-to-end automation tests as part of the scrum team's definition of done

Khoury College of Computer Sciences | **Course Assistant** | Boston, MA   *January 2018 - December 2019*
- Mentored students on topics such as effective testing and program design during lab sections and office hours

Griffiss Institute | **Research Co-op** | Rome, NY   *January 2019 - June 2019*
- Researched a reinforcement learning exploration method by combining tree search and intrinsic curiosity
- Used PyTorch to implement a novel mechanism to learn an optimal policy faster in some scenarios
- Collaborated with other students to apply recent research on sequence transformers to reinforcement learning

Forward Thinking Systems | **Software Development Intern** | Jericho, NY   *May 2018 - August 2018*
- Detected features such as camera blockages present in image thumbnails with Python and Keras
- 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 | **Summer Research Intern** | Upton, NY   *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

Publications

Verification-Guided Tree Search | **AAMAS 2020** | Auckland, NZ (Online)   *May 2020*
Alvaro Velasquez, Daniel Melcer | Extended Abstract   *dl.acm.org/doi/10.5555/3398761.3399063*

Projects

ShellShare | **Best Command Line Tool Runner Up** | HackMIT 2019   *September 2019*
Remote desktop over a SSH connection with terminal mouse inputs   *github.com/dmelcer9/shell-share*

Charity Cart | **Most Socially Impactful Project** | Brickhack 2019   *February 2019*
Automatically finds cheaper groceries and donates to charity   *devpost.com/software/charity-cart*

Invertible Programming Language | Northeastern University   *January 2018 - April 2018*
Racket Language Extension to enable definition of invertible functions   *github.com/Inverse-Lang/Inverse-Lang*

Connect Four Smart Contract | Ethereum Network   *December 2017*
Rules are verified by a distributed computer and game history is stored on a blockchain   *connectfour.melcer.dev*