

# Mickey Muldoon

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## Employment

**Blue Origin, Software Development Engineer III.** Design and develop tooling to support rocket design, testing, analysis, and manufacturing. Reduced 40,000+ LOC system supporting structural analysis reports to under 500 LOC by understanding complete requirements and working closely with customers. Designed and built internal full-stack application for document browse, search, and viewing using Clojure/Clojurescript/React, replacing legacy application with more than 10x less code. Currently leading High-Performance Compute applications across the company, supporting computational fluid dynamics, structural analysis, and a range of compute-intensive simulations hosted on AWS. Key technologies: Kubernetes, Java, Clojure, Clojurescript, AWS Cloudformation/CDK, Python, Gitlab, Red Hat Linux. *May 2021-present. Currently fully-remote from Chicago, IL.*

**Amazon.com, Software Development Engineer II.** Full stack engineering in brick-and-mortar retail and transportation/logistics spaces. Co-designer of new transportation program resulting in \$5MM in annual transportation savings. Architected and developed customer-facing systems for Amazon's first-ever Instant Fulfillment program at physical pickup points. Built front end for touch-screen kiosk at pickup points for facilitating customer returns. Designed back-end integration of new feature into Amazon's Your Orders page. Lead for integrated native/web mobile automated testing as part of continuous deployment process. Operational design and maintenance for services across retail and transportation serving up to 2MM transactions/second. Extensive use of large range of AWS technologies. Completed five internal courses on machine learning in Python. *February 2015-May 2021. Seattle, WA.*

**Amplify Education, Product Manager.** Managed development and launch of two Android applications to public school district customers in Fall 2013. Served as product lead on a cross-functional team developing a homework product for the Amplify Tablet platform. Product lead for digital adaptation of a major math curriculum. Key activities: roadmap planning, project management, user research, competitive analysis, key performance indicators, visual mockups, root cause analysis, customer training and documentation, inception and creative workshops, internal and external demos. *February 2013-January 2015. New York, NY.*

**Amazon.com, Software Development Engineer Intern.** Designed and built new feature to automate simulations for changes in worldwide inventory buying rules. Automated simulations reduced turnaround time for validating new rules by 60-95%. Technologies involved: Java, Hadoop, Hive, Amazon Web Services: Elastic MapReduce, S3, DynamoDB. *June-August 2012. Seattle, WA.*

**City College Robotics Lab, I-Corps Entrepreneurial Lead.** Served as business lead on 3-person team for "Lean Launchpad" course organized by the National Science Foundation and Stanford. Investigated commercial viability of wall-climbing inspection robot through 100+

interviews with industry leaders in non-destructive testing and inspection. Presented in person and remotely in front of instructors from Stanford, UC-Berkeley, and Silicon Valley venture capital firms. Produced summary videos. *January-May 2012. New York, NY.*

**School of One, Manager of External Affairs.** Coordinated external research agenda, crafted communications and media strategy, and produced new website for acclaimed personalized mathematics program in NYC public schools. Served as spokesperson at national education conferences. Operated and enhanced its online assessment platform. *September 2010-June 2011, New York, NY.*

**Thomas B. Fordham Institute, Policy and Operations Associate.** Assisted \$2M annual fundraising operations, including strategy, outreach, and research. Managed all bill payment via QuickBooks and participated in annual financial audits. Analyzed state and federal education policy in newsletters, blog posts, and podcasts. Organized panel events and board of trustees meetings. Served as personal assistant to organization's president. *January 2009-September 2010, Washington, DC.*

**Obama for America, Field Organizer.** Responsible for campaign field operations in rural precincts in central Ohio. Recruited, trained, and supervised four neighborhood teams with 100+ active volunteers. *July-November 2008. Richland County, OH.*

**Student Center, Teacher.** Taught English as a Foreign Language in group classes and private sessions. *August-December 2007. Bahia, Brazil.*

## Education

**Brooklyn College, MA, Computer Science, December 2012. GPA: 4.0.**

**Harvard College, BA, Psychology, June 2007. GPA: 3.6.**

## Additional Projects

**RadicalxChange:** Lead distributed volunteer team developing site for a new non-profit organization and conference focused on egalitarian applications of market principles. Technologies: Polymer, Firebase. [radicalxchange.org](http://radicalxchange.org), <https://github.com/RadicalxChange/hoverboard> (2018)

**Freestyle:** Application in C# for interactive Sifteo cubes. Social game combines elements of karaoke, Mad Libs, and trivia. Designed all gameplay features, composed and recorded theme music. Demo: <http://bit.ly/A3matR>. Code: <http://bit.ly/PVaPwO>. (2012)

**Flash cards:** Windows desktop flash card application, built in C# and SQL Server Express. Uses a spacing algorithm to recommend which cards should be seen at what time for optimal recall. (2006)

## Skills

**Spoken Languages:** Native English; fluent Portuguese; basic Spanish

**Programming Languages:** Java (strong proficiency), Python (intermediate proficiency)

**Development Environments:** Linux (Red Hat 8, Amazon Linux 2), Mac  
**Project Management:** Certified Associate in Project Management, 2011

## Writing

**“The Costs and Benefits of Nonprofit and For-Profit Statue: Perspectives from Executives and Entrepreneurs,”** in Frederick Hess and Michael Horn, eds., *Private Enterprise and Public Education*, Teachers College Press. Book chapter synthesizing interviews with 30 leading education entrepreneurs (<http://amzn.to/1aJYAzE>). (2013)

**NBC News Online: “We Need Fewer Education Reform Preachers, More Reform Engineers”** (<http://bit.ly/badu67>) (2010)

**National Review Online, (with Chester E. Finn, Jr.), “Harvard Wimps Out On Testing”** (<http://bit.ly/eigdse>). (2010)

*Prospects for a Gap Year Sector in the United States (with Sean Muldoon)*. Suggests that “Gap Year Programs” are a promising greenfield sector in American education (<http://scr.bi/q23iqL>). (2010)

## Recognition

*Education Week*, Next Gen Education Leader (<http://bit.ly/lyfJsw>) (2011)

**Shelby Area Democratic Club (OH): Truman-Kennedy Courage Award** (2009)

**National Merit Scholar** (2002)

**US National Physics Olympiad, Semifinalist** (2002)