Larry Joshua Crotts

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https://joshuacrotts.us
○ *https://github.com/joshuacrotts*

Areas of expertise

Proficient Languages	Java, C, C++, Python, Prolog
Foundational Languages	x86 & MIPS Assembly, Rust, Julia, HTML, CSS, SQL, Scheme, C#, F#, LaTeX
Tools	VSCode, Eclipse, IntelliJ, NetBeans, Vim, Visual Studio
Operating Systems	Windows, MacOS, Linux (Ubuntu, Mint, Arch-based distros)
Research Interests	Programming Languages, Compilers, Computer Science Education, Computer Architecture, High-Performance Computing, Algorithm Analysis & Design, Theory of Computation, Computer Graphics

Education

Aug 2021 - present	**Master of Science** in Computer Science; University of North Carolina at Greensboro
Aug 2018 - May 2021	**Bachelor of Science** in Computer Science; University of North Carolina at Greensboro
	Latin honors: summa cum laude, Outstanding Undergraduate Student Awardee in computer science, honors student, Phi Beta Kappa member, STAMPS (NSF) scholar, Accelerated Master's Program student, Chancellor's List Fall 2018 to Spring 2021
Aug 2017 - Jul 2018	**Transfer Degree**; Forsyth Technical Community College
	President's List Fall 2017 to Summer 2018

Professional Experience

Aug 2021 - present	**Graduate Instructor Assistant**; Computer Science Dept. at University of North Carolina at Greensboro
Jul 2021 - present	**Computer Science Tutor**; Pearson Inc.
Jan 2021 - present	**Research Assistant**; Computer Science Dept. at University of North Carolina at Greensboro
Aug 2020 - May 2021	**Graduate Assistant**; ITS Learning Technology Dept. at University of North Carolina at Greensboro
Sep 2020 - May 2021	**Formal Logic Tutor**; Philosophy Dept. at University of North Carolina at Greensboro
Jan 2020 - Sep 2020	**Undergraduate Research Assistant**; Computer Science Dept. at University of North Carolina at Greensboro
Aug 2019 - May 2021	**Computer Science Tutor & Assistant**;Computer Science Dept. at University of North Carolina at Greensboro
May 2019 - Aug 2019	**Undergraduate Research Assistant**; Computer Science Dept. at University of North Carolina at Greensboro
Mar 2018 - Oct 2018	**IT Tutor & Technician**; AgeWiser Inc.
Oct 2016 - May 2018	**Computer & Pharmacy Technician**; Walkertown Family Pharmacy

Publications

Conference papers

1. Nancy L. Green and **L. Joshua Crotts**. "A First Experiment Using ILP for Argument Mining," in *Proceedings of the 21st Workshop on Computational Models of Natural Argument. Online, September 2-3, 2021.*
2. Nancy L. Green and **L. Joshua Crotts.** "Towards Automatic Detection of Antithesis," in *Proceedings of the 20th Workshop on Computational Models of Natural Argument, co-located with the 8th International Conference on Computational Models of Argument (COMMA 2020), Sep. 8, 2020, Perugia, Italy (and online).*
3. Nancy L. Green and **L. Joshua Crotts**. "Argument Schemes in AI Ethics Education," in *Proceedings of the 20th Workshop on Computational Models of Natural Argument, co-located with the 8th International Conference on Computational Models of Argument (COMMA 2020), Sep. 8, 2020, Perugia, Italy (and online).*

University research

1. **Joshua Crotts** and Christopher Brantley. Aug 2021. "On an Enhanced Hands-on Approach to Formal Logic Education." Individual Graduate Research.
2. **Joshua Crotts**, Ali Altamimi, Christopher Brantley, Harinder Badesha, and Nadia Salou-Doudou. Apr 2021. "A Visual Improvement to the Pedagogy of Introductory Logic," in *15th UNCG Annual Undergraduate Creativity Expo. Bachelor Capstone Project.* April 2021. University of North Carolina at Greensboro.
3. **Joshua Crotts**. "Binary Space Partitioning: A Focus on Rendering and Compression Algorithms," in *21st Annual Undergraduate Honors Symposium. Algorithm Analysis and Design Graduate Research Paper.* May 2020. University of North Carolina at Greensboro.

3. **Joshua Crotts**. "An Insight into Buffer Overflow Attacks and Kernel Security in Operating Systems," *Operating Systems Graduate Research Paper*. Dec 2020. University of North Carolina at Greensboro.
4. **Joshua Crotts** and Nancy L. Green. "Automatic Detection of Rhetorical Devices in Science Policy Articles," in *14th UNCG Annual Undergraduate Creativity Expo.* Apr 2020. University of North Carolina at Greensboro.

In-progress research/manuscripts

1. **Joshua Crotts**. "An Investigation of Compiler-Induced Vulnerabilities and Insecure Optimizations," *Computer Security Graduate Research Paper*. University of North Carolina at Greensboro.
2. **Joshua Crotts** "The Optimization of Largely-Populated Emitters in Particle Systems," *Individual Undergraduate Research*. University of North Carolina at Greensboro.

Teaching (teaching assistant)

Fall 2021
1. CSC 490: Senior Capstone; University of North Carolina at Greensboro (1 section).
2. CSC 471: Principles of Database Systems; University of North Carolina at Greensboro (1 section).
3. CSC 362: System Programming; University of North Carolina at Greensboro (2 sections).

Spring 2021
1. CSC 130: Introduction to Computer Science; University of North Carolina at Greensboro (2 sections).
2. PHI 310: Introduction to Formal Logic; University of North Carolina at Greensboro (1 section).

Fall 2020
1. CSC 130: Introduction to Computer Science; University of North Carolina at Greensboro (2 sections).
2. PHI 310: Introduction to Formal Logic; University of North Carolina at Greensboro (1 section).

Spring 2020
1. CSC 130: Introduction to Computer Science; University of North Carolina at Greensboro (1 section).

Fall 2019
1. CSC 130: Introduction to Computer Science; University of North Carolina at Greensboro (1 section).

Service/Volunteering

1. Undergraduate representative member of the search committee for a new assistant professor position in computer science at the University of North Carolina Greensboro. Reviewed over 90 professional curriculum vitae, participated in remote and inperson interviews. Jan 2020.
2. Created a Minecraft code.org tutorial for the remote NSF-funded research study Science Everywhere at the University of North Carolina Greensboro. Apr 2021.

Scholarships/Awards

2021   Graduate Computer Science Assistantship; University of North Carolina at Greensboro

2021   Margaret Ann Cassidy Scholarship in Computer Science; University of North Carolina at Greensboro

2020 - 2021   Science, Technology, and Math Prep Scholarship; University of North Carolina at Greensboro

2020 - 2021   Margaret Ann Cassidy Scholarship in Computer Science; University of North Carolina at Greensboro

2020 - 2021   White Science Research Award; University of North Carolina at Greensboro

2020 - 2021   Burgess Honors Scholarship; University of North Carolina at Greensboro

2020 - 2021   Outstanding Student Excellence Award in Computer Science; University of North Carolina at Greensboro

2020 - 2021   Provost Student Excellence Award; University of North Carolina at Greensboro

2019 - 2020   Mary D. Murray Scholarship in Computer Science; University of North Carolina at Greensboro

2019 - 2020   Samanage Success Scholarship in Computer Science; University of North Carolina at Greensboro

2018 - 2019   Mary D. Murray Scholarship in Computer Science; University of North Carolina at Greensboro

2017   Winston-Salem Foundation Montague Award; Walkertown High School

2017   Salutatorian Medal Award; Walkertown High School