Larry Joshua Crotts

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Education

Indiana University Bloomington — August 2022 – Present
PhD in Computer Science; GPA: 3.87/4.0 — *Bloomington, IN*

University of North Carolina Greensboro — August 2021 – May 2022
MS in Computer Science; GPA: 4.0/4.0 — *Greensboro, NC*

University of North Carolina Greensboro — August 2018 – May 2021
BS in Computer Science; GPA: 3.99/4.0 — *Greensboro, NC*

Research Experience

Research Assistant — Jan. 2021 – Sep. 2021
University of North Carolina Greensboro — *Greensboro, NC*
- Designed and tested an approach to argument mining in science policy articles using inductive logic programming in Prolog.

Research Assistant — May 2020 – Sep. 2020
University of North Carolina Greensboro — *Greensboro, NC*
- Implemented an algorithm to detect contrasting words via antithesis in science policy articles.

Research Assistant — May 2019 – Aug. 2019
University of North Carolina Greensboro — *Greensboro, NC*
- Revised and rebuilt an argument scheme diagramming software using JavaFX and Maven.
- Improved UI experience and workspace flow for classroom and educator usage.

Other Experience

Associate Instructor — Aug. 2022 – Present
Indiana University Bloomington — *Bloomington, IN*
- Led four undergraduate introductory computer science (C211/C212) labs, graded assignments, and held office hours for students. Courses were taught in Racket and Java.

Computer Science Tutor — Jul. 2021 – Present
Pearson — *Remote*
- Answer both offline and live questions from students with concerns about computer science courses ranging from introductory to algorithm analysis.

Graduate Teaching Assistant — Aug. 2021 – May 2022
University of North Carolina Greensboro — *Greensboro, NC*
- Graded assignments for several classes including database systems, system programming, operating systems, algorithm analysis, and senior capstone.
- Hosted optional recitation sessions for system programming and operating system students in the C programming language.

Graduate Assistant — Aug. 2020 – May 2021
University of North Carolina Greensboro — *Greensboro, NC*
- Acted as faculty support and promoted the use of the Panopto video-sharing service.
- Gathered, reported, and cleaned Panopto usage analytics from faculty throughout the university.

Philosophy Formal Logic Tutor — Sep. 2020 – May 2021
University of North Carolina Greensboro — *Greensboro, NC*
- Hosted drop-in office hours for student questions.
- Created review sessions for exams and clarified problems and solutions on homework/practice assignments.

Lab Assistant and Grader — Aug. 2019 2021 – May 2021
University of North Carolina Greensboro — *Greensboro, NC*
- Graded assignments and hosted several lab sections for the introduction to computer science course taught in Java.
- Assisted students in several computer science courses via walk-in office hours.

Proceedings Publications

L. Joshua Crotts and Stephen R. Tate. 2022. Comparison of Natural Deduction Theorem Provers used in Electronic Tutoring Systems. In *6th International Conference on Education and E-Learning (ICEEL)*, November 21–23, 2022, Tsuru, Japan. ACM, New York, NY, USA.

L. Joshua Crotts and Stephen R. Tate. 2022. Promoting a Common Testbed for Natural Deduction Tutoring Systems. In *6th International Conference on Education and E-Learning (ICEEL)*, November 21–23, 2022, Tsuru, Japan. ACM, New York, NY, USA.

Nick Parlante, Julie Zelenski, Stephanie Valentine, Mike Izbicki, Eric S. Roberts, Jed Rembold, Juliette Woodrow, Kathleen Creel, Nick Bowman, Ben Stephenson, Jonathan Hudson, **Larry "Joshua" Crotts**, Andrew Matzureff. 2022. "Nifty Assignments". In *Proceedings of the 53rd ACM Technical Symposium on Computer Science Education* V. 2 (SIGCSE 2022), March 3–5, 2022, Providence, RI, USA. ACM, New York, NY, USA, 2 pages. https://doi.org/10.1145/3478432.3499268

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*. September 2-3, 2021. Online.

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). September 8, 2020. Perugia, Italy (and online).

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). September 8, 2020. Perugia, Italy (and online).

Thesis

Larry Joshua Crotts. "Construction and Evaluation of a Gold Standard Syntax for Formal Logic Formulas and Systems." May 2022. University of North Carolina Greensboro.

University Research

Joshua Crotts, Ali Altamimi, Harinder Badesha, Christopher Brantley, and Nadia Doudou. "A Visual Improvement to the Pedagogy of Introductory Logic," in *15th Annual Undergraduate Creativity Expo. Bachelor Capstone Project.* April 2021. University of North Carolina Greensboro.

Joshua Crotts. "Binary Space Partitioning: A Focus on Rendering and Compression Algorithms," in *21st Annual Undergraduate Honors Symposium. Algorithm Analysis Graduate Research Paper.* April 2021. University of North Carolina Greensboro.

Joshua Crotts and Nancy L. Green. "Automatic Detection of Rhetorical Devices in Science Policy Articles," in *14th Annual Undergraduate Creativity Expo*. April 2020. University of North Carolina Greensboro.

Awards & Honors

Latin Honors: Summa Cum Laude
University of North Carolina Greensboro — *May 2021*

Outstanding Undergraduate Student Awardee in Computer Science
University of North Carolina Greensboro — *May 2021*

Honors Student in Computer Science
University of North Carolina Greensboro — *May 2021*

Phi Beta Kappa Member
University of North Carolina Greensboro — *May 2021*

NSF STAMPS Scholar
University of North Carolina Greensboro — *May 2021*

Chancellor's List
University of North Carolina Greensboro — *Fall 2018 - Spring 2021*

Technical Skills

Programming Languages: C, Java, C++, Python, LaTeX, Scheme, Racket, Prolog, C#, F#, Assembly, Rust, Julia
Tools: Git, Visual Studio Code, IntelliJ, Eclipse, NetBeans, Vim, Visual Studio
Operating Systems: Linux (Arch/Debian), Windows, MacOS
Other topics: Programming Languages, Compilers, Linguistics (Syntax & Semantics), Theory of Computing, Algorithm Analysis, Parallel Computing, Computer Architecture, Artificial Intelligence, Computer Science Education