

# LARRY JOSHUA CROTTTS

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## EDUCATION

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**University of North Carolina Greensboro**, College of Arts and Sciences, Greensboro, NC Aug. 2018 – May 2022  
*B.S. Computer Science (2021), M.S. Computer Science (2022)* **GPA: 3.98/4.0**

- Chancellor's List Fall 2018, Spring 2019, Fall 2019, Spring 2020, Summer 2020
- Awarded STAMPS, Margaret Ann Cassidy Computer Science, and Charlotte & Dabney White Research Scholarships for 2020-2021 Academic Year, the Samanage Success and Mary D. Murray Scholarships for 2019-2020 Academic Year, and Mary D. Murray Scholarship for 2018-2019 Academic Year
- Accepted into Accelerated B.S. to M.S. Computer Science Program
- Accepted into Disciplinary Honors Computer Science Program
- Relevant Coursework:
  - (2020-2021) Principles of Operating Systems, Principles of Computer Networks, Compiler Design
  - (2019-2020) Concepts of Programming Languages, Theory of Computation, Software Engineering, Algorithm Analysis & Design, Principles of Computer Architecture, Principles of Database Systems, Artificial Intelligence
  - (2018-2019) Advanced Data Structures, Foundations of CS I/II, Computer Organization & Assembly, Elementary Data Structures & Algorithms

**Forsyth Technical Community College**, Winston-Salem, NC Aug. 2017 – Jul. 2018  
*Transfer Degree* **GPA: 4.0/4.0**

- President's List Fall 2017, Spring/Summer 2018
- Coursework: Introduction to Computer Science (Python), Data Structures & Algorithms (C++)

## EXPERIENCE

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**University of North Carolina Greensboro**, Greensboro, NC Aug. 2020 – Current  
*ITS Learning Technology – Graduate Assistant*

- TBD

*Research Assistantship – Software Developer* Jan. 2020 – Current

- Worked with Nancy Green (Ph. D) to build an application that recognizes various rhetoric patterns in literature, political arguments, and scientific policy articles to determine an author's persuasion to their readers. We use Python and the natural language toolkit (NLTK). Emphasis is placed on algorithmic automatic detection.

*Computer Science Tutor* Aug. 2019 – Current

- Aided students in low to mid-level computer science courses with assignments.
- Serve as the TA for several Intro to Computer Science lab section, walking around to any student needing help. I also grade exams and lab programming assessments. I have assisted with both in-person and online formats.

*Research Assistantship – Software Developer* May 2019 – Aug. 2019

- Worked with Nancy Green (Ph. D) to rewrite an existing argument [scheme]-structured program into a software engineering ethic-focused diagramming software.
- Argument schemes and articles/cases/ethics using XML files are loaded in by the user, which then allow the user to form premises, hypotheses, conclusions, counterarguments, etc.
- The user-interface was reconfigured and redesigned accounting for previous usability issues and bugs, including MacOS & Linux support, serialization/deserialization, etc.

**Age-Wiser/TechStar Tutors**, Winston-Salem, NC Mar. 2018 – Oct. 2018  
*Information Technology Tutor*

- Traveled to various locations to meet with clients to address [their] computing problems, diagnose errors (hardware & software alike) or tutor them in a topic.
- Improved company morale by acting in accordance with respectful and customary ordinances, thereby spreading positive feedback and increasing customer potential and quality.

**Walkertown Family Pharmacy**, Walkertown, NC Oct. 2016 – May 2018  
*Computer & Pharmacy Technician*

- Created a Google Sheets and Google Apps Scripts (JS, SQL) medicine query application where customers input a specific drug, quantity, and our competitive prices compared to other pharmacies are displayed.
- Quickly and accurately typed addresses for delivery, constructed simplistic Google Forms and Sheets for invoice reports, formatted documents, and troubleshooted technology at the pharmacy such as scanners, computers, printers, etc.
- Technical diagnoses reduced downtime and boosted profitability margins.

## RESEARCH

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- Dr. Nancy L. Green and **Joshua Crotts**. July 2020. *Towards Automatic Recognition of the Rhetorical Figure of Antithesis*. University of North Carolina at Greensboro (Incomplete).
- **Joshua Crotts**. June 2020. *The Optimization of Largely-Populated Emitters in Particle Systems*. Individual Undergraduate Research. University of North Carolina at Greensboro (Unpublished and incomplete).
- **Joshua Crotts**. May 2020. *Binary Space Partitioning – A Focus on Rendering and Compression Algorithms*. Graduate Research Paper for Algorithm Analysis & Design (CSC - 654). University of North Carolina at Greensboro (Unpublished).
- **Joshua Crotts** and Dr. Nancy L. Green. April 2020. *Automatic Detection of Rhetorical Devices in Scientific Policy Articles*. Thomas Undergraduate Research Creativity Expo. University of North Carolina at Greensboro.
- Dr. Nancy L. Green and **Joshua Crotts**. August 2019. *Argument Schemes and Diagramming for AI Ethics Education*. University of North Carolina at Greensboro.

## TECHNICAL STRENGTHS

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### Programming Languages:

- Proficient Experience: Java, C, C++, Python
- Additional Experience in: Assembly, C#, Swift, SQL, JavaScript, Google Apps Script, Prolog, Scheme, F#, XML, HTML, CSS

**Tools:** Visual Studio, Eclipse, NetBeans, IntelliJ, PyCharm, Vim, Microsoft Office, Packet Tracer, Google Suite, XCode, LaTeX  
**OS:** Windows, MacOS, Linux (Ubuntu, Mint, Elementary OS, ArcoLinux, PopOS)

**Interests:** High-Performance & Parallel Computing, Rendering and Compression Algorithms, Embedded Software Engineering, Computer Architecture, Microprocessor Design, Compiler Design, Quantum Computing, Advanced Algorithm Analysis & Design, Compression, Collision Detection, Algorithmic Natural Language Processing