

Maxwell Barlow
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EDUCATION

Aug 2019 - May 2023 **Bachelor of Science in Computer Science**
Florida Southern College
Concentration: Machine Learning and Artificial Intelligence
Minors: Math, English, Philosophy
Cumulative GPA: 3.79

SCHOLARSHIPS, FELLOWSHIPS, AND ACADEMIC HONORS

2019 - 2023 **McClurg Scholarship**
Florida Southern College Prestige Scholarship: Full tuition and fees to attend Florida Southern College from Fall 2019 to Spring 2023

2020 - 2021 **Recipient, Presidents List**
President's List indicates a student earned a GPA of 4.0 in a given semester. Earned Spring '20, Fall '21, and Spring '21

2020 - 2022 **Recipient, Dean's List**
Dean's List indicates that the student earned a Grade point average between 3.7 and 3.99 in a given semester. Earned in Fall '20 and Spring '22.

PUBLICATIONS

Barlow, M., Cazalas, I., Robinson, C., and Cazalas, J. (2021). MOCSIDE: an open-source and scalable online IDE and auto-grader for introductory programming courses. *J. Comput. Sci. Coll.* 37(5), 11–20.

Barlow, M., Kipper, J., and Ma, T. (2024). Conceptual Complexity, Conceptual Analysis, and Machine Learning. *Synthese*. (Under Review)

ACADEMIC EXPERIENCE

PRESENTATIONS

Cazalas, J., Barlow, M., Cazalas, I., and Robinson, C. 2022. MOCSIDE: An Open-source and Scalable Online IDE and Auto-Grader for Computer Science Education. *In Proceedings of the 53rd ACM Technical Symposium on Computer Science Education V. 2 (SIGCSE 2022)*. Association for Computing Machinery, New York, NY, USA, 1114. <https://doi.org/10.1145/3478432.3499125>

Barlow, M., and Jeiter-Johnson, S. (August 2022) “Machine Learning and Conceptual Complexity”. Summer Research Symposium, University of Rochester. Capstone presentation of NSF REU program.

RELEVANT COURSES

CSC3510	Introduction to Artificial Intelligence, Florida Southern College.	<i>Spring '20</i>
	<ul style="list-style-type: none">Built foundational ideas in artificial intelligence, exploring topics such as Game AI and search based approaches such as A* search.	
CSC3520	Machine Learning, Florida Southern College.	<i>Fall '20</i>
	<ul style="list-style-type: none">Examined the fundamental models and methods used in machine learning, such as regression, neural networks, learning theory, support vector machines, recommender systems.Capstone: Apply 3 practiced techniques for classification to a novel problem, present results in paper form. Group of 3.	
MAT3313	Calculus III - Plane Analytic Geometry, Florida Southern College.	<i>Fall '20</i>
	<ul style="list-style-type: none">Solid analytic geometry, vector calculus, partial differentiation, multiple integrals, and other coordinate systems. Used computer algebra system (CAS).	
CSC3992	Directed Study, Florida Southern College.	<i>Spring '21</i>
	<ul style="list-style-type: none">Under the direction of Dr. Jonathan Cazalas, developed the web application MocsIDE with a team of three students having no prior web development experience among the group.Learned PHP and Laravel from scratch for building an API.Published results as a paper at CCSC:SE 2022, and a poster at SIGCSE 2022	
CSC4510	Advanced Topics in Artificial Intelligence, Florida Southern College.	<i>Spring '21</i>
	<ul style="list-style-type: none">In-depth examination of a current topic in artificial intelligence, such as evolutionary computation, artificial neural networks, planning, and gaming.This session of Advanced Topics focused mostly on computer vision.	
PHI4479	Philosophy & Artificial Intelligence, Florida Southern College.	<i>Spring '21</i>
	<ul style="list-style-type: none">Looked at the intersection between philosophy and artificial intelligence. What is a mind or consciousness? What does it mean to say that a computer has a mind or conscious experience? How would we test for consciousness? What are some ethical considerations for working AI? And, finally, should we worry about AI becoming super-intelligent?	
ENG3304	James Baldwin, Florida Southern College.	<i>Fall '21</i>
	<ul style="list-style-type: none">Introduction to James Baldwin (1924-1987) as an author, activist, and cultural figure.Reading works by and about Baldwin, critically examined his analyses of race, sexuality, and the United States in the twentieth century and his continued relevance today. Reflected upon the image Baldwin cultivated and the image of Baldwin constructed by the media.	
CSC3400	Software Engineering, Florida Southern College.	<i>Spring '22</i>
	<ul style="list-style-type: none">Presented fundamental principles of software engineering. Emphasized software design, implementation and maintenance. Techniques used in the major phases of the software life cycle such as agile process, rapid prototyping, object-oriented design and module testing, were discussed.Capstone: Android Application, with demo and department presentation. Group of 3.	
CSC4640	Advanced Programming Techniques, Florida Southern College.	<i>Spring '22</i>
	<ul style="list-style-type: none">Focus on the development of problem-analysis and problem-solving skills, advanced programming techniques, and team collaboration.General topics covered included incrementally difficult ad-hoc problems, linear and non-linear data structures, complete search, divide and conquer, greedy, graphs, number theory, and advanced string processing. Emphasis on implementation	

PHI4479	Critical Theories of Race, Florida Southern College.	<i>Spring '22</i>
	<ul style="list-style-type: none"> Attempted serious philosophical reflections on race and racism by examining classic and contemporary works within critical theories of race. Looked at early historical reflections on race and racism, the ways in which racism is both structural and existentially lived, intersectionality and black feminism, and current disinformation and extremist campaigns against critical race theory. 	
MAT2505	Linear Algebra, Florida Southern College.	<i>Fall '22</i>
	<ul style="list-style-type: none"> Studied matrices, solutions of homogeneous and non-homogeneous systems of equations, vector spaces, linear mappings, determinants, eigenvalues, and eigenvectors. 	
CSC4899	Senior Project, Florida Southern College.	<i>Fall '22</i>
	<ul style="list-style-type: none"> Worked under faculty direction, selected a problem or task, analyzed it and developed a solution. At the end of the semester, made a formal, public presentation in an appropriate format determined by the faculty. Capstone: Flow Free (Numberlink) solver using both A* search and SAT reduction. Group of 3. Preceded by proposal in December '21. 	
ENG3360	Asian American Literature, Florida Southern College.	<i>Fall '22</i>
	<ul style="list-style-type: none"> Explored questions involving Asian American identity and experience through the study of writings by Asian American authors. Became familiar with the history of the term "Asian American," the development of Asian American literary studies, and current trends in the field. 	

EMPLOYMENT HISTORY

INTERNSHIPS

Student Research Assistant, University of Rochester

Rochester, NY, USA

May 2022 - Jun 2023

- Worked with Dr. Jens Kipper, initially under the NSF REU program for the duration of Summer 2022 and further as an independent research assistant.
- Continued work under Dr. Kipper's supervision in 2023, including as an undergraduate co-author of the paper related to work from Summer 2022 that is under review for publication.

PROFESSIONAL EXPERIENCE

Guidewire Developer, MAPFRE Insurance

Webster, MA

Jun 2023 - Present

- Gained proprietary training and certification from Guidewire Software
- Responded to tickets on ServiceNow providing insight into, assessing impact of, and fixing, code-errors for over 30 tickets per month.
- Created new features and configurations for Guidewire PolicyCenter using component based development with an Agile team.

Student Lab Assistant, Rinker Technology, Florida Southern College

Lakeland, FL

Jan 2020- May 2023

- Handled student IT help desk operations at varying times of the day
- Handled student and faculty facing tickets where an in-person update is required
- Provided general technical support on top of help desk responsibilities during nighttime and emergency hours

Backend Developer, Florida Southern College

Lakeland, FL

Jan 2022 - May 2022

- Built the data layer of a progressive web app for triangulating useful appointments for patients in a network of orthopedic surgeons.
- Used Google Firebase and TypeScript to implement service wrappers for useful data presentation.
- Generated algorithms and prototyped solutions for distance based search with a variable query.

SKILLS

PROGRAMMING

- **Java, Gosu, Kotlin**
- **Python 2 and 3**
- **PHP 6, 7, 8**
- **Javascript, Typescript**
- **MySQL, Oracle SQL**
- **Bash and batch scripting**

FRAMEWORKS & TECHNOLOGIES

- **Guidewire InsuranceSuite**
- **Laravel, Spring boot**
- **Apache HTTP Server, Apache Tomcat**
- **Vue, React, Angular**
- **Docker, Kubernetes**
- **Ubuntu/Debian Linux Server, Windows Server**
- **Git, GitHub, Bitbucket**
- **Jira, ServiceNow**
- **Google Firebase, Analytics**
- **Amazon AWS, Microsoft Azure**
- **Android Studio**