Nicholas Ceccarelli

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EDUCATION

University at Buffalo, The State University of New York — Expected May 2021
Bachelor of Science, ***Computer Science****, Software Systems Focus* — GPA: 3.97/4.00
Bachelor of Arts, ***Mathematics***

Lorenzo di Medici International Institute — Winter 2019
Study Abroad Experience in Florence, Italy

WORK EXPERIENCE

Moog, Inc., *Computer Science Intern* — Summer 2020 - Present
- Assist in creating an framework for creating a smart factory that can be expanded and tailed to client needs
- Utilize Microsoft Azure Internet of Things resources for smart factory framework

CytoCybernetics Inc., *Software Engineering Intern* — Fall 2019 – Summer 2020
- Designed, debugged, and tested software applications used in biological research
- Assisted in designing and creating user experiences for several applications
- Created install scripts and user manuals for applications
- Implemented algebraic and differential equations in Python for both analytical and numerical results

Ox Intel, Inc., *Software Engineering Consultant* — Spring 2020
- Develop a minimum viable product GUI and data storage system for a data collection application
- Assist the Ox team in teaching the basics of software development and cloud computing

NSF-funded REU at the University of Nevada, Reno, *Undergraduate Researcher* — Summer 2019
- Created an algorithm to find optimal placement of UAV access points for a temporary network
- Articulated the project in an academic paper which was accepted by the IEEE WOCC 2020 conference

CyberMed Research Lab, *Undergraduate Researcher* — Winter 2020 – Present
- Utilize a ResNet deep neural network to give a preliminary respiratory illness diagnosis
- Engineer audio files to spectrograms for use with ResNet network

CSE 220: Systems Programing, *Teaching Assistant* — Fall 2019 - Present
- Teach in recitation and office hour sessions to assist students
- Present new ideas for the course in weekly meetings

PROGRAMMING PROJECTS

On-Campus Event Manager Android Application — Spring 2020
- Worked on a team of three to design an application using the Agile design process
- Designed the UX for upcoming events, check in, and event creation pages
- Utilized XML for front end, Java for backend, and MySQL for database

Optimal UAV Positioning for a Temporary Network Using an Iterative Genetic Algorithm — Summer 2019
- Performed a literary review in the research subject area
- Created a system to generate optimal positioning for drones to cover a map of users using a drone swarm
  - Used genetic algorithms, mathematical calculations, and the concepts of transfer learning
- Performed testing and validation against previously existing solutions

C-Standard Compliant Memory Allocator — Spring 2019
- Implemented `malloc()`, `calloc()`, `realloc()`, and `free()` for the C programming language
- Utilized a multi-pool approach for small allocations and a bulk approach for large allocations
- This implementation can be used to run single-threaded programs

TECHNICAL SKILLS

C++	Java	Android Development	Git/GitHub	Python
C	JavaScript	LaTeX	MySQL	HTML
TensorFlow	Bash	Microsoft Office	Project Management	Agile Development

ACCOMPLISHMENTS

Engineering Honor Society	Dean's List	AP Scholar with Distinction
Presidential Scholarship	Grace W. Capen Scholar	WNY Scholar Athlete

LEADERSHIP/CO-CURRICULAR EXPERIENCES

Honors Student Council, *Treasurer* — Fall 2019 - Present
- Plan social and volunteering events for students
- Manage Honors Student Council funds

UB Association for Computing Machinery, *Member* — Spring 2018 – Present

University Heights Tool Library, *Volunteer* — Spring 2018

Honors Mentoring Program, *Mentor* — Fall 2018 - Present
- Answer questions about the transition from high school to college and UB

Intramural Soccer and Volleyball, *Participant* — Fall 2017 - Present

UB Symphonic Orchestra, *Principal Bassist* — Fall 2017 - Present