

# Ethan Charles Barnes

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## EDUCATION

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### Bachelor of Science in Computer Science

May 2018

3.37/4.0 GPA

New Media Institute Certificate

University of Georgia - Athens, GA

## TECHNICAL EXPERIENCE

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**Platforms/Tools:** Linux/Unix, Windows, MacOS, Android, iOS, Xcode, ROS, VMware

**Programming Languages:** C/C++, Python, Java, CUDA, MATLAB, SQL, Swift, HTML, CSS, Javascript, Ruby

**Major Courses:** Software Development, Systems Programming, Theory of Computing, Web Programming, Computer Networks, Probabilistic Robotics, Database Management, Cyber Security

## PROFESSIONAL EXPERIENCE

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*Space Communications and Navigation Intern*

June 2018-September 2018

**NASA Glenn Research Center**

Cleveland, OH

- Lead flight software engineer for the Management of On-Board Radio Telemetry Project, an experimental cognitive radio communications system
- Develop custom networking structures for radio communications using C++ in a Linux based environment
- Improve productivity of 3D modeling workflow via Python scripting
- Perform system integration tests on both software and hardware platforms
- Perform data analysis to design and implement an adaptive radio transmit power algorithm to cognitively adjust transmit power during flight

*Electronics Team Lead*

February 2017-Present

**UGA Small Satellite Research Laboratory**

Athens, GA

- Lead a team of 8 software and electrical engineers to document and perform research and implementations for review by NASA and the Air Force Research Laboratory
- Design and develop satellite software architectures for deployment, scan, data down link, and data processing
- Design and perform electrical and software system tests on satellite hardware
- Program functions and modes for the Spectral Ocean Color (SPOC) satellite mission for NASA's second iteration of the Undergraduate Student Instrument Project (USIP)
- Perform research in compression and encryption methods for the Multi-view Computational On-Board Imager (MOCI) mission for the Air Force Research Laboratory's ninth iteration of the University Nanosatellite Program (UNP)

*Software Developer*

January 2018-June 2018

**Computational Drug Discovery Lab**

Athens, GA

- Develop edge finding algorithms for prediction of protein binding sites based on complex data sets using CUDA
- Create new computational drug discovery methods and improving existing methodologies
- Build models to simulate biological systems

## ACTIVITIES

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**Center for Undergraduate Research Opportunities (CURO) Assistantship Recipient**

- Compression and Encryption Methods for Small Satellite Communication

**University of Georgia Chapter of the Association for Computing Machinery (ACM)**

- UGA Hackathon