

# John D. Duncan, III

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## Work Experience

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**Quorum Analytics**  
*Software Engineer*

1050 Connecticut Avenue NW, Washington, DC  
*Present*

- Working with the front-end team to develop code that collects, interprets, organizes, and presents legislative data on the Quorum SaaS platform.

**Massachusetts Institute of Technology: Lincoln Laboratory (MIT LL)**  
*Research Intern*

Lexington, MA  
*Summer 2016*

- Worked with the Humanitarian Assistance and Disaster Relief Systems Group (Division 4 Group 44) on the **Local Evacuation Alert Verification** (LEAV) program for **HURREVAC-eXtended** (HVX). Wrote and designed an **Android application** for end users (LEAV) and a **JavaScript** module for the Emergency Manager front-end (HVX). Agile development cycle. Participated in a DHS defense workshop.
  - **Centralized** all continental U.S. evacuation zones into one database.
  - **Reduced** WFS-T call size by multiple orders of magnitude.
  - Gave a final **presentation** to the broader Group 44.
  - The FEMA/DHS sponsor for the project was pleased with the final outcome.
  - Slides and laudatory Supervisor's Assessment available upon request.

**Gettysburg College Computer Science Department**  
*Intern*

Gettysburg, PA  
*Summer 2015*

- Worked with Professor Chuck Kann developing a Gettysburg Monuments **Android** application (published to the Google Play Store) and **website**.

## Education

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**B.S. in Computer Science Honors (3.60) and Philosophy Honors (3.73)**  
Gettysburg College, Gettysburg, PA

*May 2017*

Outstanding Computer Science Student Award  
Eisenhower Institute Undergraduate Fellow  
Dean's Honors List  
Dean's Commendation List

*Class of 2017*

*2016-2017*

*Fall 2015/2016, Spring 2017*

*Fall 2013*

## Computer Science

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**Capstone Adam's Wellness Family Connection Website Team Project**

Adviser: Dr. Rod Tosten

- Presented **seven colloquia** to the department and broader Gettysburg community.
- Represented the Computer Science Department during the **Spring 2016 Get Acquainted Day**.
- Organized & facilitated two "**Hour of Code**" sessions for local students in the Adams County area.
- Led **three teams** that completed Android applications (two of which were published).

## Philosophy

**Thesis** *Virtual Futures: Virtuality as Political Praxis*

Adviser: Dr. Lisa Portmess

**Capstone** *Infinite Horizons: The World to Mind Question*

Adviser: Dr. Daniel DeNicola

- Co-moderated a Philosophy Department **Socratic Club Seminar** about the future of work.
- Writing samples available upon request.

## Eisenhower Institute Undergraduate Fellow

Program offers a select group of eight Gettysburg College students the chance to develop their **leadership skills** and knowledge & understanding of **public policy**. Our research focus was refugee policy and our adviser was **Dr. Shirley Anne Warshaw**, Harold G. Evans Chair of Eisenhower Leadership Studies.

- Researched and wrote the ‘New Technologies’ section for our **State Department Diplomacy Lab** White Paper on **Health Care Records in Mixed-Migration settings**. We presented our findings to the *Office of Economic Security, International Health and Biodefense Population, Refugees, and Migration* at the State Department.
  - Physical research for this project included: a trip to the United Nations, dinners, and in person meetings with experts in Europe and resettled Syrian refugees in Pennsylvania.
- Co-organized and moderated two panels that detailed current issues in **public policy, national security, civics, and refugee rights**.
- Gave a presentation detailing our research to the **EINAC** (Eisenhower Institute National Advisory Council). Members of the EINAC include the granddaughter of a past U.S. president, the president of Gettysburg College, a member of the 9/11 Commission, and other notable donors and alumni.

## Technical

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<b>Languages</b>	<b>Go, JavaScript, Java, C++, C</b> some Python, Mips ASM, Scheme R5RS, Emacs Lisp, and Visual Basic.
<b>Web</b>	<b>HTML5, CSS3, XUL, DOM, XPCOM</b> , Jira some Ruby, PHP, and Perl <b>JSON, GIS, REST, WFS, AJAX</b> , geoJSON <b>net/http</b> , Apache, Lighttpd, Nginx <b>NoSQL</b> , some SQL
<b>Protocols</b>	<b>upspin</b> , https, irc, gopher, nntp, ftp, ldap
<b>Tools</b>	<b>Git, Hg, Svn, Cvs</b> <b>Emacs, GIMP, Regex, L<sup>A</sup>T<sub>E</sub>X</b> , Blender <b>Android SDK</b> , EXT-JS, OpenLayers, Google Maps API, Maven, Gradle
<b>Unix/Plan9</b>	<b>Sh, Sed, Awk, Grep, Rc</b> GNU/Linux, Android, macOS, Darwin/XNU, OpenBSD, GCC, Clang ffmpeg, cygwin, xquartz, pkg-src, homebrew, macports, fink
<b>Images/3d</b>	<b>xface</b> , png, gif, jpeg, xbm, xpm, blit ikon, geoworks bit, ilbm/pbm, base64, picons, gravatar, ogre3d

- Disclosed two bugs extant in the Gettysburg Campus Navigation Portal (CNAV) electronic record keeping system. The first bug allowed any user to **delete** any other **user account** from a CNAV ‘group’ (mailing list). The second bug **leaked** all internal account images to the web. Received a cash award.

## Side Projects (<http://cs.gettysburg.edu/~duncjo01/assets/portfolio.html>)

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- **messagefaces**: XUL/XPCOM add-on that displays popular & recondite ‘face’ images from email headers.
- **weather**: JavaScript on my homepage that displays a 7-day weather forecast using art that I made.

- **faces**: Go library that converts an XFace to PNG and performs picon lookups from a picon database.
- **blog/wiki**: Go micro-(blogging/wiki) platform.
- **macfonts**: Converted all '80s resource fork Macintosh fonts to data fork fonts for use on macOS.
- **pokersquares**: Designed/wrote an Android app that uses an Expectimax NARL AI player.
- **redlight**: Designed/wrote an Android app that uses an ANN AI player for the game of Pig.
- **hog**: Managed and designed/wrote an Android app that plays a modified version of the game of Pig.
- **screenfetch**: Ported the popular system information script to macOS.
- **archive**: Archived many esoteric patterns, bitmaps, clip art, screensavers, and fonts from 1973-1999.

## Presentations (<http://cs.gettysburg.edu/~duncjo01/assets/about.html>)

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### Talks

- Socratic Club Seminar (future of work) *Spring 2017*
- Computer Science Capstone Colloquium *Fall 2016*
- Internship Colloquium *Spring 2016, Fall 2016*
- Computer Science Department "Get Acquainted Day" *Spring 2016*
- Hitchhiker's Guide to Computer Science Colloquium *Fall 2015/2016, Spring 2016*
- Gettysburg College Celebration *Spring 2015/2017*

### Planned/Moderated

- Programming Competition Colloquium *Spring 2017*
- Student Solidarity Rally *Spring 2017*
- EI Panel: Lady Liberty's Poor and Huddled Masses: *Rethinking Refugees in America* *Spring 2017*
- EI Panel: We Want You...Or Do We? *A Panel on Refugees & Asylees Coming to the U.S.* *Fall 2016*
- We Won't Stand for Hate at Gettysburg College *Fall 2016*
- Political Debates *Fall 2015/2016, Spring 2016*
- Hour of Code Colloquia *Fall 2015/2016*

## Governance

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### Gettysburg Association for Computing Machinery (ACM) chapter

- Vice President *2016-2017*
- Secretary *2015-2016*
- Student Senate Representative *2015-2017*

### Gettysburg College Independents

- Treasurer *2016-2017*
- Organized and moderated three political debates between the College Democrats and College Republicans.

### GACC

- Leftist political organization. Organized debates, events & rallies, distributed zines, and participated in campus activism projects. Club also served as a welcoming space for politically and socially marginalized LGBTQA+ students.
- Student Senate Representative *2016-2017*

## References

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Contact information for references available upon request.

<b>Charles E. Rose</b>	<i>Associate Technical Staff</i>	MIT Lincoln Laboratory
<b>Dr. Todd W. Neller</b>	<i>Professor</i>	Gettysburg College Computer Science Dept.
<b>Dr. Lisa Portmess</b>	<i>Bittinger Professor of Philosophy</i>	Gettysburg College Philosophy Dept.
<b>Dr. Shirley Anne Warshaw</b>	<i>Professor</i>	Gettysburg College Political Science Dept.
<b>Dr. Charles W. Kann, III</b>	<i>Adjunct Professor</i>	Gettysburg College Computer Science Dept.