



## EDUCATION

Columbia University in the City of New York, *Expected graduation May 2019.*  
BA Candidate, Major in Computer Science, Concentration in History.

## WORK EXPERIENCE

**ARiSE Lab** at Columbia University, New York  
*Researcher, 9/2018 - Present*

- Studying the use of machine learning in program analysis in collaboration with Computer Science faculty
- Performing experiments involving machine learning models, code clone detection, and similarity analysis
- Preparing results for publication on security vulnerability detection in source code with machine learning

**Center for Spatial Research** at Columbia University, New York  
*Developer and Research Assistant, 9/2016 - Present*

- Using React Native to research peer-to-peer protocols (DAT), sensor networks, and data sharing
- Created web maps and data visualizations with Python and Javascript (Node.js, D3.js, p5.js)
- Built custom CMS for management of a MongoDB database by non-technical users
- Collaborated with teams including developers, architects, linguists, and urban planners  
[<http://c4sr.columbia.edu>] [[https://centerforspatialresearch.github.io/colombia\\_site/](https://centerforspatialresearch.github.io/colombia_site/)]  
[<https://beyond-the-census.herokuapp.com>]

**Computer Science Department** at Columbia University, New York  
*Teaching Assistant, 9/2016 - Present*

- Introduction to Data Visualization with Professor Agnes Chang
- Introduction to Computer Science and Programming in Java with Professor Adam Cannon
- Supported professors by hosting office hours to guide and advise students

**Brown Institute for Media Innovation** at Columbia University, New York  
*Developer and Research Assistant, 2/2018 - 7/2018*

- Built the website and data visualization for a collaborative research project between the graduate schools of Architecture and Journalism
- Project promoted by WYNC on 93.9FMNY and in print online by Gothamist  
[<https://canners.nyc>] [<https://brown.columbia.edu>]

**Google Summer of Code**  
*Developer, 6/2017 - 9/2017*

- Worked with the Processing Foundation on p5.js
- Made major contributions to the open source codebase of p5.js-sound
- Redesignated features and refactored existing codebase for modularity
- Created new audio processing effects and an accurate timing system for audio production
- Designed APIs and implemented test suite
- Optimized features for performance and efficiency  
[[https://jvn.tf.github.io/gsoc\\_workproduct/](https://jvn.tf.github.io/gsoc_workproduct/)]

**WKCR-FM** New York  
*Director of Engineering and Operations, 1/2018 - 12/2018*  
*Radio Programmer, 5/2016 - Present*

- Oversaw general equipment usage and repair of station equipment and transmission infrastructure
- Taught FCC licensing classes on live music recording, playback, and broadcasting technology
- Developed new and modern infrastructure for playing and recording music at WKCR
- Curated programming for music shows across departments (In All Languages, American, and Jazz)

## ADDITIONAL EXPERIENCE

**Columbia University Journal of Literary Criticism**  
*Design Editor, 9/2016 - Present*

- Led graphic and layout design team
- Used InDesign and Illustrator

**The Petey Greene Program**  
*Volunteer Tutor, 9/2016 - Present*

- Worked with incarcerated youth on Rikers Island
- Assisted students with mathematics, writing, and English as a second language

## SKILLS

### Computer Science

*Programming Languages*  
C, C++, Java, Ocaml,  
Javascript (React Native,  
Node.js), Python, Ruby

*Tools*  
Git, Unix

*Web*  
HTML/CSS

### Software

*Graphic Design*  
Adobe Photoshop,  
Illustrator, InDesign

*3D Design*  
Rhino3D, Grasshopper,  
Autodesk AutoCAD,  
Autodesk Fusion 360,  
Cinema4D, Blender

*Music Production*  
Ableton Live

### Music

Trumpet Player / Composer /  
Producer

### Fabrication

3D Printing, Laser Cutting,  
CNC Milling, Vinyl Cutting,  
Soldering, Welding, Sewing,  
Woodworking

### Language

Spanish (Conversational)

## COURSEWORK

Operating Systems, Compilers  
Natural Language Processing,  
Security Engineering, Networks,  
Computer Science Theory,  
Fundamentals of Computer Systems,  
Linear Algebra, Discrete Mathematics

## LINKS

### Portfolio

<http://github.com/jvn.tf>

### Linkedin

<https://bit.ly/2Ht0YCZ>