



WORK EXPERIENCE

SITU Research in Brooklyn, New York

Software Engineer, Researcher, 7/2019 - Present

- Building high performance, custom applications in Javascript (Node, React, D3.js, Three.js, Deck.gl, Mapbox GLJS) to visualize geographic and three-dimensional data to document and analyze spatial, social, and environmental injustice
- Engineering applications, optimizing dataflow, and collaboratively managing projects
- Preparing and curating data and evidence with QGIS, CloudCompare, Blender, and Rhinoceros
- Collaborating with small research team in house and with clients and collaborators internationally, including human rights advocacy groups and lawyers, scientific researchers, and journalists
- Incorporating crowd sourced media and documentation as a data source
- Researching the future of architecture at the intersection of computation and fabrication

ARISE Lab at Columbia University, New York

Researcher, 9/2018 - 6/2019

- Studied the use of machine learning in static analysis in collaboration with Computer Science faculty
- Performed experiments involving machine learning models, code clone detection, and similarity analysis
- Prepared 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 - 6/2019

- Built a prototype for a decentralized sensor network using React Native and the DAT protocol
 - Researched the application of user location data to urban infrastructure and equity problems
 - Created web maps and data visualizations with Python and Javascript (Node.js, D3.js, p5.js, Express)
 - Built custom CMS for management of a MongoDB database by non-technical users
 - Collaborated with teams including developers, architects, linguists, and urban planners
- [<https://hyfa.net/>] [<http://c4sr.columbia.edu>] [https://centerforspatialresearch.github.io/columbia_site/]
[<https://beyond-the-census.herokuapp.com>]

Computer Science Department at Columbia University, New York

Teaching Assistant, 9/2016 - 6/2019

- Introduction to Data Visualization, and Introduction to Computer Science and Programming in Java
- 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 premiered by WYNC on 93.9FMNY and in print online by Gothamist NYC (<http://gothamist.com>) [<https://canners.nyc>] [<https://brown.columbia.edu>]

Google Summer of Code Fellow with The Processing Foundation

Developer, 6/2017 - 9/2017

- Made major contributions to the open source codebase of p5.js-sound (The Processing Foundation)
- Coordinated with community members on design and implementation strategies
- Redesigned 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

EDUCATION

Columbia University in the City of New York,

Bachelor of Arts, Class of 2019

Major in Computer Science, Concentration in History.

ADDITIONAL EXPERIENCE

Creative Time X Summit

Workshop Presenter (with SITU Research), 11/2019

Columbia University Journal of Literary Criticism

Design Editor, 9/2016 - 5/2019

WKCR-FM New York

Director of Engineering and Operations, 1/2018 - 12/2018

Radio Programmer, 5/2016 - 6/2019

The Petey Greene Program

Volunteer Tutor, 9/2016 - 12/2018

Grupo Fenix, Nicaragua

Volunteer, 10/2014 - 12/2014

SKILLS

Software Engineering

Programming Languages

Javascript, Python,
C, C++, Ocaml,
Java, Ruby

Tools

Git, Unix

Web

HTML/CSS

Software

Graphic Design

Adobe Photoshop,
Illustrator, InDesign

3D Design

Rhinoceros, Grasshopper,
Autodesk AutoCAD,
Autodesk Fusion 360,
Cinema4D, Blender

Geospatial

CloudCompare, QGIS

Music Production

Ableton Live

Fabrication

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

Music

Trumpet Player / Composer /
Producer

Language

Spanish (Conversational)

INTERESTS

Distributed Systems, Compilers
Natural Language Processing,
Computer Vision

LINKS

Portfolio

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

Linkedin

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