

# Carolina Nobre

DATA VISUALIZATION RESEARCHER

☎ (774) 408-0309 | ✉ [cnobre@g.harvard.edu](mailto:cnobre@g.harvard.edu) | 🌐 [cnobre](#)

## Education

### Harvard University

HARVARD DATA SCIENCE INITIATIVE POSTDOCTORAL FELLOW

[Boston, MA](#)

Mar 2020 - Present

### University of Utah

PHD IN COMPUTING, DATA TRACK

[Salt Lake City, UT](#)

Sep 2016 - Mar 2020

### Harvard Extension School

MASTERS IN SOFTWARE ENGINEERING

[Boston, MA](#)

Jan 2012 - Jul 2016

### University of Massachusetts, Dartmouth

MASTERS IN PHYSICAL OCEANOGRAPHY

[Boston, MA](#)

Sep 2007 - Jul 2009

### University of São Paulo, São Paulo

BACHELORS IN OCEANOGRAPHY

[São Paulo, Brazil](#)

Jan 2002 - Dec 2006

## Teaching Experience

### Faculty

ISYS6645 - DATA VISUALIZATION (BOSTON COLLEGE)

- Creating lecture content and teaching undergrads and MBA students

[Boston, MA](#)

Fall 2021

### Teaching Fellow

CS-171 - DATA VISUALIZATION (HARVARD SCHOOL OF ENGINEERING)

- Developing and grading homeworks
- Creating and running coding labs

[Boston, MA](#)

Fall 2020, Fall 2021

### Teaching Fellow

CS-271 - TOPICS IN DATA VISUALIZATION (HARVARD SCHOOL OF ENGINEERING)

- Leading paper discussions
- Mentoring class projects

[Boston, MA](#)

Spring 2021

### Guest Lecturer

BMI 706 - DATA SCIENCE II: DATA VISUALIZATION FOR BIOMEDICAL APPLICATIONS (HARVARD MEDICAL SCHOOL)

- Taught the Network Visualization lectures for BMI 706

[Boston, MA](#)

Spring 2020

### Teaching Lead

MULTIVARIATE NETWORK VISUALIZATION TUTORIAL - IEEE VIS

- Developed and taught a full day tutorial on visualizing multivariate networks at the IEEE VIS 2019 conference.

[Vancouver, British Columbia](#)

Oct. 2019

### Teaching Fellow

CS-6630 VISUALIZATION FOR DATA SCIENCE (UNIVERSITY OF UTAH)

- Teaching lectures
- Developing and grading homeworks
- Creating and running coding labs

[Salt Lake City, UT](#)

Fall 2017, Fall 2018

### Student Mentor

UNIVERSITY OF UTAH UNDERGRADS AND MASTER STUDENTS

- Mentoring students on capstone and research internship projects

[Salt Lake City, UT](#)

Aug 2018 - Mar 2020

## Work Experience

---

### Google X

SOFTWARE ENGINEER INTERN

- Development of interactive tools in support of internal projects
- Development of visualization to aid domain experts in analyzing biological data

Mountain View, CA

June 2018 - Aug. 2018

### Harvard Medical School

DATA VISUALIZATION RESEARCH INTERN

- Development of visualization for clinical data, such as NHANES
- Development of visualization using data from the PIC-SURE API

Boston, MA

June 2017 - Aug. 2017

### Woods Hole Oceanographic Institution

RESEARCH ASSOCIATE

- Developing software to facilitate data processing and visualization both at sea and on land
- Developing and managing websites for research projects
- Data acquisition and processing during field experiments aboard research vessels

Woods Hole, MA

Feb 2011 - Aug. 2016

### Horizon Marine

OCEANOGRAPHY ANALYST

- Processing and analyzing satellite imagery to determine ocean current conditions
- Development of Matlab scripts for automating data analysis process

Marion, MA

July 2009 - Feb. 2011

## Skills

---

Programming / Vis Tools	D3, Tableau, Javascript, Python, R, Matlab, Cypher QL, SQL
Design Software	Adobe Photoshop, Adobe Illustrator, Adobe Premiere, Adobe XD
Platforms	Firebase, Neo4J, AWS, Docker

## Publications

---

- Daniel Rodrigues, Joel Martinez, Priyan, Johanna Beyer, **Carolina Nobre**  
**Protograph: An Approachable and Extensible Toolkit for Graph Visualization and Animation**  
*Under Review at CHI 2022*
- Yalong Yang, Wenyu Xia, Fritz Lekschas, **Carolina Nobre**, Robert Krueger, Hanspeter Pfister  
**The Pattern is in the Details: An Evaluation of Interaction Techniques for Locating, Searching, and Contextualizing Details in Multivariate Matrix Visualizations**  
*Under Review at CHI 2022*
- **Carolina Nobre**, Dylan Wootton, Zack Cutler, Lane Harrison, Hanspeter Pfister, Alexander Lex  
**reVISit: Looking Under the Hood of Interactive Visualization Studies**  
In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1-13). 2021
- Kiran Gadhave, Jochen Görtler, Zach Cutler, **Carolina Nobre**, Oliver Deussen, Miriah Meyer, Jeff Phillips, Alexander Lex  
**Predicting Intent Behind Selections in Scatterplot Visualizations**  
Information Visualization, 20(4): 207–228, doi:10.1177/14738716211038604, 2021.
- Tica Lin, Rishi Singh, Yalong Yang, **Carolina Nobre**, Johanna Beyer, Maurice A. Smith, and Hanspeter Pfister.  
**Towards an Understanding of Situated AR Visualization for Basketball Free-Throw Training**  
In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, 2021
- Spandan Madan, S, Bylinskii Z, **Carolina Nobre**, Tancik M, Recasens A, Zhong K, Alsheikh S, Oliva A, Durand F, and Pfister H  
**Parsing and Summarizing Infographics with Synthetically Trained Icon Detection**  
2021 IEEE 14th Pacific Visualization Symposium (PacificVis), 2021
- **Carolina Nobre**, Dylan Wootton, Lane Harrison, Alexander Lex  
**Evaluating Interactive Multivariate Network Visualization Techniques using a Validated Design and Crowd-Sourcing Approach**  
In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, pp. 1-12. 2020
- **Carolina Nobre**, Marc Streit, Miriah Meyer, Alexander Lex  
**The State of the Art in Visualizing Multivariate Networks**  
Computer Graphics Forum (EuroVis '19), 38: 807-832, doi:10.1111/cgf.13728, 2019.
- Alex Bigelow, **Carolina Nobre**, Miriah Meyer, Alexander Lex  
**Origraph: Interactive Network Wrangling**  
In 2019 IEEE Conference on Visual Analytics Science and Technology (VAST), pp. 81-92. IEEE, 2019.
- **Carolina Nobre**, Marc Streit, Alexander Lex  
**Juniper: A Tree+Table Approach to Multivariate Graph Visualization**  
IEEE Transactions on Visualization and Computer Graphics (InfoVis '18), 25(1): 544-554, doi:10.1109/TVCG.2018.2865149, 2019.
- **Carolina Nobre**, Nils Gehlenborg, Hilary Coon, Alexander Lex  
**Lineage: Visualizing Multivariate Clinical Data in Genealogy Graphs**  
IEEE Transactions on Visualization and Computer Graphics, 25(3): 1543-1558, doi:10.1109/TVCG.2018.2811488, 2019.
- **Carolina Nobre**, Alexander Lex  
**OceanPaths: Visualizing Multivariate Oceanography Data**  
Proceedings of the Eurographics Conference on Visualization (EuroVis '15) - Short Papers, doi:10.2312/eurovisshort.20151124, 2015.
- **Carolina Nobre**  
**Deploying Moorings on the Ocean Floor**  
Workshop Proceedings, VisWeek 2015, Chicago.