

Carolina Nobre

DATA VISUALIZATION RESEARCHER

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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 Vaithilingam, Johanna Beyer, **Carolina Nobre**
Protograph: An Approachable and Extensible Toolkit for Graph Visualization and Animation
Preprint
- 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
Preprint
- **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.