

Arvind Satyanarayan

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EDUCATION

Ph.D. Computer Science
Stanford University, 2011–Present
Advisor: Jeffrey Heer

M.S. Computer Science
Stanford University, 2014

B.S. Computer Science
University of California, San Diego, 2011
Advisor: James D. Hollan

PUBLICATIONS

Vega-Lite: A Grammar of Interactive Graphics. Arvind Satyanarayan, Dominik Moritz, Kanit Wongsuphasawat, Jeffrey Heer. *IEEE Trans. Visualization & Computer Graphics (Proc. InfoVis)*. October 2016. [22% Acceptance Rate, **Best Paper Award (Top 1)**].

Visual Debugging Techniques for Reactive Data Visualization. Jane Hoffswell, Arvind Satyanarayan, Jeffrey Heer. *Computer Graphics Forum (Proc. EuroVis)*. June 2016. [27% Acceptance Rate]

Reactive Vega: A Streaming Dataflow Architecture for Declarative Interactive Visualization. Arvind Satyanarayan, Ryan Russell, Jane Hoffswell, Jeffrey Heer. *IEEE Trans. Visualization & Computer Graphics (Proc. InfoVis)*. October 2015. [22% Acceptance Rate]

Declarative Interaction Design for Data Visualization. Arvind Satyanarayan, Kanit Wongsuphasawat, Jeffrey Heer. *Proc. ACM User Interface Software and Technology (UIST)*. October 2014. [22% Acceptance Rate]

Lyra: An Interactive Visualization Design Environment. Arvind Satyanarayan, Jeffrey Heer. *Computer Graphics Forum (Proc. EuroVis)*. June 2014. [25% Acceptance Rate]

Authoring Narrative Visualizations with Ellipsis. Arvind Satyanarayan, Jeffrey Heer. *Computer Graphics Forum (Proc. EuroVis)*. June 2014. [25% Acceptance Rate]

Webzeitgeist: Design Mining the Web. Ranjitha Kumar, Arvind Satyanarayan, Cesar Torres, Maxine Lim, Salman Ahmad, Scott R. Klemmer, Jerry O. Talton. *Proc. ACM Human Factors in Computing Systems (CHI)*. May 2013. [20% Acceptance Rate, **Best Paper Award (Top 1%)**].

Using Overlays to Support Collaborative Interaction with Display Walls. Arvind Satyanarayan, Nadir Weibel, James D. Hollan. *Proc. ACM Intelligent User Interfaces (IUI)*. February 2012. [19% Acceptance Rate]

POSTERS & TECHNICAL REPORTS

The CHI 2013 Interactive Schedule. Arvind Satyanarayan, Daniel Strazzulla, Clemens Klokmoose, Michel Beaudouin-Lafon, Wendy Mackay. *Extended Abstracts, ACM Human Factors in Computing Systems (CHI)*. May 2013.

Learning Structural Semantics for the Web. Maxine Lim, Ranjitha Kumar, Arvind Satyanarayan, Cesar Torres, Jerry O. Talton, Scott R. Klemmer. *Stanford CSTR 2012-03*. December 2012.

A Platform for Large-Scale Machine Learning on Web Design. Arvind Satyanarayan, Maxine Lim, Scott R. Klemmer. *Extended Abstracts, ACM Human Factors in Computing Systems (CHI)*. May 2012.

PROFESSIONAL EXPERIENCE

May 2014 – Sept 2016 **Co-Founder and Advisor**, *Apropose, Inc.*

Sept 2013 – May 2014 **Co-Founder and Chief Architect**, *Apropose, Inc.*

- Led initial development of core infrastructure and prototype applications, culminating in a successful **\$1.9M seed round** backed by NEA and Andreessen Horowitz.

- Summer 2012 & Spring 2016 **Research Intern, *In Situ Lab*, INRIA and LRI, Université Paris-Sud**
With Profs. Wendy Mackay and Michel Beaudouin-Lafon
- Designed an interactive schedule for the CHI 2013 conference, which coupled large displays and mobile devices to allow attendees to collaboratively filter and visualize upcoming events.
 - Developed a prototype visualization substrate to enable collaborative interactive visual analysis between multiple users using heterogeneous devices and a large display wall.
- 2011 – Present **Graduate Research Assistant, *Interactive Data Lab*, Stanford Univ./Univ. of Washington**
With Prof. Jeffrey Heer
- 2011 – 2012 **Graduate Research Assistant, *HCI Group*, Stanford University**
With Prof. Scott Klemmer
- 2010 – 2011 **Undergraduate Research Assistant, *DCog-HCI Lab*, UC San Diego**
With Prof. James Hollan
- Developed the **Overlay**: an interface element to facilitate multi-user, multi-device interactions on wall-sized displays.
 - Developed **HIPerFace**: a Java framework to combine interactions from multiple individual input device into novel composite interactions.
- Summer 2008 **Movable Type Product Intern, *Six Apart Ltd.***
San Francisco, CA
- Developed an extensible revision history framework for Movable Type objects with a slider and `diff`-type interfaces.
 - Built a Perl-based system to allow community members to maintain profiles and submit plugins to be showcased for download.
- 2004 – 2007 **Publisher and Developer, *Movalog* and *Movalog Plugins***
<http://www.movalog.com>
- Developed several popular plugins for Movable Type. One plugin, CustomFields, was **acquired** by Six Apart and is now bundled with Movable Type.
 - Co-organized The Style Contest, a design contest for Movable Type blog themes. Six Apart, Adobe and StyleMaster sponsored over \$17,000 in prizes, and judges included Derek Powazek, Jason Santa Maria and John Allsopp.
 - Author of an influential weblog in the Movable Type community featuring numerous tips, tutorials and articles.

INVITED TALKS & DEMOS

- October 2016 **The Vega Ecosystem**
Keynote Address, Visualization In Practice Workshop, *IEEE VIS*, Baltimore, MD
- July 2016 **Reactive Building Blocks: Interactive Visualizations with Vega**
Keynote Address, DataViz Camp, *United Nations*
- April 2016 **Reactive Building Blocks: Interactive Visualizations with Vega**
OpenVis Conf, *Boston, MA*
- May 2016 **Higher-Level Tools for Interactive Data Visualization**
INRIA Saclay, *Saclay, France*
- September 2015 **Higher-Level Tools for Interactive Data Visualization**
BiD Seminar, *UC Berkeley, Berkeley, CA*
- April 2015 **Lowering the Threshold of Visualization Design**
Science Colloquium, *Linfield College, McMinnville, OR*
- December 2014 **Lowering the Threshold of Visualization Design**
Tata Innovation Labs, *Tata Consultancy Services, Delhi, India*

Designing Visualizations with Lyra Tutorial

April 2015	I247: Information Visualization & Presentation, <i>UC Berkeley Information School, Berkeley, CA</i>
December 2014	Tata Innovation Labs, <i>Tata Consultancy Services, Delhi, India</i>
December 2014	J221: Introduction to Data Visualization, <i>UC Berkeley Journalism School, Berkeley, CA</i>
November 2014	HCDE 511: Information Visualization, <i>University of Washington, Seattle, WA</i>

Lyra: An Interactive Visualization Design Environment

April 2014	OpenVis Conf, <i>Boston, MA</i>
March 2014	CAR, <i>Baltimore, MD</i>
February 2014	Tapestry, <i>Annapolis, MD</i>

NewsCamp :: Introduction to D3

March 2014	CAR, <i>Baltimore, MD</i>
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TEACHING

Winter 2016	HCID 520: User Interface Software & Technology , <i>University of Washington</i> Co-Instructor with Prof. Jeffrey Heer
Winter 2013	CS 247: Human-Computer Interaction Design Studio , <i>Stanford University</i> Graduate Teaching Assistant for Profs. Jeffrey Heer and Michael Bernstein
Fall 2012	CS 147: Introduction to Human-Computer Interaction , <i>Stanford University</i> Graduate Teaching Assistant for Prof. Scott Klemmer
Winter 2012	HCI Online #001 , <i>Stanford University</i> and <i>Coursera</i> Graduate Teaching Assistant for Prof. Scott Klemmer

MENTORING

Fall 2016	Tianyi “Tina” Lin, BS Computer Science & Engineering (UW ’17)
Summer & Fall 2016	Matthew Chun, BS Computer Science & Engineering (UW ’18)
Summer 2016	Yiyang “Amy” Xu, BS Computer Science & Engineering (UW ’18)
Summer 2016	Anjir Hossain, BS Human-Centered Design & Engineering (UW ’18)
Spring 2016	Nikhil Khanna, BS Computer Science & Engineering (UW ’18)
2015 – 2016	Emily Gu, BS+MS Computer Science & Engineering (UW ’16)
Summer 2015	Ruijia “Iris” Wang, BS Computer Science & Engineering (UW ’17)
2014 – 2016	Ryan Russell, BS Computer Science & Engineering (UW ’16)

SERVICE

Reviewing	IEEE VIS 2014–2016, EuroVis 2014–2016, IEEE TVCG 2015–2016, ACM UIST 2014–2016, ACM CHI 2013–2016, ACM IUI 2012–2015, IEEE PacificVis 2016.
2016	Program Committee Member, <i>OpenVis Conf</i>
2013	Interactive Schedule Chair, <i>CHI 2013 Organizing Committee</i>
2009 – 2011	Resident Advisor, <i>Revelle College, UC San Diego</i>
2010 – 2011	Student Conduct Code Re-write Workgroup Student Representative, <i>UC San Diego</i>
2010 – 2011	Housing, Dining, Hospitality Advisory Committee Student Representative, <i>UC San Diego</i>
Summer 2010	Parent Orientation Leader, <i>Revelle College, UC San Diego</i>
2009 – 2010	Revelle College Senator, <i>Associated Students, UC San Diego</i>
2008 – 2009	Director of Communications, <i>Revelle College Council, UC San Diego</i>

AWARDS & HONORS

- 2016 IEEE InfoVis Best Paper Award (Vega-Lite)
- 2016 – 2018 Google PhD Fellowship
- 2013 ACM CHI Best Paper Award (Webzeitgeist)
- 2011 – 2014 SAP Stanford Graduate Fellowship, *Stanford University*
- 2011 Outstanding Senior, *UC San Diego Alumni Association*
- 2010 Undergraduate Summer Research Scholar, *Calit2, UC San Diego*
- 2009, 2010 Ernest Mort Award for Excellence in Leadership, *Revelle College, UC San Diego*
- 2009 Tau Beta Pi
- 2008 – 2010 Provost's Honors, *Revelle College, UC San Diego*
- 2005 – 2007 Duke of Edinburgh Bronze, Silver and Gold Awards

PRESS

Information is Beautiful Award Shortlist Nomination. *Kantar, November 2015.*

<http://www.informationisbeautifulawards.com/showcase?acategory=free-tool&action=index&award=2015&controller=showcase&page=1&pcategory=long-list&type=awards>

Apropose Closes \$1.875M Funding Round Led by NEA and Andreessen Horowitz. *PR Newswire, September 2014.*

<http://www.prnewswire.com/news-releases/apropose-closes-1875m-funding-round-led-by-nea-and-andreessen-horowitz-274728751.html>

10 Significant Visualization Developments: January to June 2014. *Visualizing Data, August 2014.*

<http://www.visualisingdata.com/index.php/2014/08/10-significant-visualisation-developments-january-to-june-2014/>

Movable Type Experts Team Up on Melody, an Open Source Publishing Platform. *Techcrunch, June 2009.*

<http://techcrunch.com/2009/06/25/movable-type-experts-team-up-on-melody-an-open-source-publishing-platform/>

Why We Call it a “Community”. *Movable Type, August 2007.*

<http://www.movabletype.com/blog/2007/02/why-we-call-it-a-community.html>

REFERENCES

Jeffrey Heer

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Maneesh Agrawala

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Stanford University
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