

# Adam J. Coscia – Curriculum Vitae

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## EDUCATION

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**Ph.D. in Human-Centered Computing**, Georgia Institute of Technology Atlanta, GA  
GPA: 4.00 / 4.00 | Advisor: **Alex Endert** Expected 2025

**B.S. in Physics**, Stevens Institute of Technology Hoboken, NJ  
GPA: 3.98 / 4.00 | Minors: Mathematics, Computer Science 2020

## RESEARCH EXPERIENCE

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**Georgia Institute of Technology** Atlanta, GA  
Graduate Research Assistant | Advisor: **Alex Endert** 2020–present

- Member of the Visual Analytics Lab.
- Developing interactive visual analytic applications that help people make sense of data.
- Combining information visualization, machine learning, data mining, and human-computer interaction.
- **Funded** in part by *National Science Foundation grant IIS-1813281*.

**NASA Jet Propulsion Laboratory** Pasadena, CA  
Computer Science Lead | Advisor: **Scott Davidoff** Summer 2021

- Joint work between *NASA Jet Propulsion Laboratory*, *Caltech*, and the *ArtCenter College of Design*.
- Built interactive data visualizations for current scientific research.
- **Funded** by *JPL Summer Internship Program*.

**Stevens Institute of Technology** Hoboken, NJ  
Research Assistant | Advisors: **Aron Lindberg**, **Amir Gandomi** 2018–2020

- Developed statistical model in Python for connecting evolutionary trajectories of digital artifacts to performance outcomes in online communities.
- **Funded** by *Stevens Pinnacle Scholars Program*.

**Katholieke Universiteit Leuven** Leuven, Belgium  
Visiting Research Scholar | Advisors: **Lino da Costa Pereira**, **Tiago Abel de Lemos Lima** Summer 2017

- Built data visualization interface in Python for managing simulations of ion channeling in single crystals, to be used in ion beam analysis of topological materials.
- **Funded** by both *Katholieke Universiteit Leuven* and *Stevens Pinnacle Scholars Program*.

## INDUSTRY EXPERIENCE

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**New York Life Insurance Company** New York, NY  
Machine Learning / Operations Intern | Supervisor: **Paul Janis** Summer 2020

- Engineered multiple feature extraction pipelines interfaced by Domino platform and integrated with existing Hadoop infrastructure.
- Produced model monitoring metric reports for stakeholders and internal data science team.

Data Platform Engineering Intern | Supervisor: **Paul Janis** Summer 2019

- Built various scalable programs and data-handling procedures for multiple teams to leverage complex, low-level data lake tools with efficient, cost-effective, and easy-to-use interfaces.

## AWARDS and HONORS

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<b>Executive Vice President for Research (EVPR) Poster Award</b> , Georgia Institute of Technology	2021
<ul style="list-style-type: none"><li>• CRIDC Poster Competition winner; <i>Lumos: Increasing Awareness of Biases during Visual Data Analysis</i>.</li></ul>	
<b>President's Fellowship</b> , Georgia Institute of Technology	2020
<ul style="list-style-type: none"><li>• Four-year semesterly stipend award; selected upon admission from top 10% of applicant pool.</li></ul>	
<b>Alfred M. Mayer Prize</b> , Stevens Institute of Technology	2020
<ul style="list-style-type: none"><li>• Cash prize awarded to senior ranked first in all physics courses taken during undergraduate career.</li></ul>	
<b>Sigma Pi Sigma Physics Honor Society</b> , American Institute of Physics	2019
<ul style="list-style-type: none"><li>• Inducted as a Lifetime Member.</li></ul>	
<b>Distinguished Teaching Assistant</b> , Stevens Institute of Technology	2018
<ul style="list-style-type: none"><li>• Awarded to student faculty member nominated for creating outstanding classroom environment.</li></ul>	
<b>Presidential Scholarship</b> , Stevens Institute of Technology	2016
<ul style="list-style-type: none"><li>• Four-year, half-tuition award; selected for academic excellence in high school.</li></ul>	

## PUBLICATIONS and PRESENTATIONS

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### Journal Articles

1. Narechania, A., **Coscia, A.**, Wall, E., Endert, A. *Lumos: Increasing Awareness of Analytic Behavior during Visual Data Analysis*. IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS, 2021), 2021.
2. Wall, E., Narechania, A., **Coscia, A.**, Paden, J., Endert, A. *Left, Right, and Gender: Exploring Interaction Traces to Mitigate Human Biases*. IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS, 2021), 2021.

### Workshop Papers

1. **Coscia, A.**, Chau, D., Endert, A. *Toward a Bias-Aware Future for Mixed-Initiative Visual Analytics*. Workshop on TRust and EXPertise in Visual Analytics (TREX) at IEEE VIS, 2020.

### Posters

1. Narechania, A., **Coscia, A.**, Wall, E., Endert, A. *Lumos: Increasing Awareness of Biases during Visual Data Analysis*, Career, Research, and Innovation Development Conference (CRIDC), Atlanta, GA, March 2021.
2. **Coscia, A.** *Correlating Long-Term Innovation with Success in Career Progression*, Business Intelligence & Analytics (BI&A) Corporate Networking Event, Hoboken, NJ, November 2018.
3. **Coscia, A.** *Correlating Long-Term Innovation with Success in Career Progression*, Pinnacle Scholar Summer Research Poster Session, Hoboken, NJ, November 2018.

## TEACHING and MENTORING

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<b>Stevens Institute of Technology</b>	Hoboken, NJ
Course Assistant, Honors Electricity & Magnetism   Supervisor: <b>Christopher Search</b>	2018–2020
<ul style="list-style-type: none"><li>• Assisted professor with grading, exam reviews, in-class worksheets, and testing material preparation.</li></ul>	
Course Assistant, Electricity & Magnetism   Supervisor: <b>Robert Pastore</b>	2018–2020
<ul style="list-style-type: none"><li>• Assisted lecturer by running exam reviews each semester for an average class size of 200 students.</li></ul>	
Teaching Assistant, Introduction to Scientific Computing   Supervisor: <b>Dimitrios Damopoulos</b>	2017–2020
<ul style="list-style-type: none"><li>• Instructed 15-25 students weekly via in-person labs using MATLAB assignments designed to teach basic scientific computing paradigms.</li><li>• Developed course material with instructor supervision.</li></ul>	

Mentor, Pinnacle Scholar Peer Advisor Program

2017–2019

- Mentored 4-6 Pinnacle Scholar freshman representing different majors each academic year. Provided guidance on internships, classes, international experiences, campus resources; took students on excursions into Hoboken.

## GRANTS and FUNDING

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**Pinnacle Scholar Summer Institutional Research Program**

Summer 2018

- \$5000 stipend from *Stevens Institute of Technology*

**International Summer Abroad Internship Program**

Summer 2017

- €3000 stipend, Department of Physics and Astronomy, *Katholieke Universiteit Leuven*
- \$5000 stipend, Pinnacle Scholars Program, *Stevens Institute of Technology*

## PROFESSIONAL ASSOCIATIONS

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**Sigma Pi Sigma Physics Honor Society** *Lifetime Member*

2019

**American Physical Society** *General Member*

2016

## PROFESSIONAL SERVICE

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**IEEE VIS** *Reviewer*

2022

## COMMUNITY ENGAGEMENT

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**Stevens Institute of Technology**

Hoboken, NJ

Co-panelist, "Applying to Ph.D. Programs"

Fall 2020

- Shared Ph.D. application experiences with undergraduate Stevens' Pinnacle and Clark Scholars.
- Co-panelist with Kaitlin Gili, PhD in Physics, Oxford University, starting Jan. 2021.

Treasurer, Society of Physics Students | Supervisor: **Edward Whittaker**

2017–2020

- Requested and defended semesterly budget between \$2000 and \$5000 .
- Planned lectures, research colloquiums, scheduling events for physics majors.
- Led organization outreach programs in the Hoboken Grade Schools, both on and off-campus.

## SKILLS and TECHNIQUES

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**Data Visualization**

- Java/TypeScript (*D3.js*, *Three.js*), Python (*matplotlib*, *seaborn*), R (*ggplot2*), Tableau, MATLAB

**Data Acquisition and Warehousing**

- SQL, Python (*Scrapy*, *BeautifulSoup*), ETL Tools (*Apache Hive* / *Hadoop* / *Spark*, *Oracle*), Redis

**Data Analysis**

- Python (*pandas*, *NumPy*, *SciPy*, *scikit-learn*) R, MATLAB

**Web Development Libraries / Frameworks**

- Angular, Vue.js, Node.js, jQuery, Bootstrap, D3.js, Socket.IO / Express / Axios

**Development Tools / Environments**

- Git, Jupyter Notebook, Visual Studio Code

**Other Languages and Frameworks**

- Java, C/C++

## **Numerical Methods**

- Interpolation, polynomial approximation, integration, differentiation, solving IVPs, direct and iterative methods of solving linear and non-linear systems of equations in MATLAB

## **RELEVANT COURSEWORK**

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### **Human-Computer Interaction**

- Introduction to Human-Centered Computing, Principles of User Interface Software, Qualitative Methods for Design of Human Computer Interaction, Information Visualization

### **Cognitive Science**

- Introduction to Cognitive Science

### **Computer Science**

- Discrete Structures, Data Structures, Algorithms, Creative Problem Solving and Team Programming, Database Management Systems

### **Mathematics**

- Differential Equations, Multivariable Calculus, Linear Algebra, Advanced Calculus (Real Analysis)

### **Statistics**

- Probability and Statistics, Intermediate Statistics

### **Math Methods / Applications**

- Math Methods for Physicists I & II, Thermal & Statistical Physics, Computational Physics (Numerical Methods + Machine Learning)

### **Physics**

- Mechanics, Electromagnetism, Quantum Mechanics I & II, Solid State Physics, Physics of Biological Systems