# Adam J. Coscia – Curriculum Vitae

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## EDUCATION

**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

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

- Member of the Visual Analytics Lab where we develop interactive visual analytic applications that help people make sense of data by combining scientific techniques from information visualization, machine learning, data mining, and human-computer interaction to produce usable, yet powerful visual analytic applications.
- **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* creating 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

**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 to produce 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

**Executive Vice President for Research (EVPR) Poster Award**, Georgia Institute of Technology 2021
- CRIDC Poster Competition winner; *Lumos: Increasing Awareness of Biases during Visual Data Analysis*

**President's Fellowship**, Georgia Institute of Technology 2020
- Yearly stipend renewable for 3 additional terms; selected upon admission from top 10% of applicant pool.

**Alfred M. Mayer Prize**, Stevens Institute of Technology 2020
- Cash prize awarded to senior ranked first in all physics courses taken during undergraduate career.

**Sigma Pi Sigma Physics Honor Society**, American Institute of Physics 2019
- Inducted as a Lifetime Member.

**Distinguished Teaching Assistant**, Stevens Institute of Technology 2018
- Awarded to student faculty member nominated for creating outstanding classroom environment.

**Presidential Scholarship**, Stevens Institute of Technology 2016
- Four-year, half-tuition award; selected for academic excellence in high school.

## PUBLICATIONS

### 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.

## PRESENTATIONS

### Poster

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

**Stevens Institute of Technology** Hoboken, NJ

Course Assistant, Honors Electricity & Magnetism | *Supervisor:* **Christopher Search** 2018—2020
- Assisted professor with grading, exam reviews, in-class worksheets, and testing material preparation.

Course Assistant, Electricity & Magnetism | *Supervisor:* **Robert Pastore** 2018—2020
- Assisted lecturer by running exam reviews each semester for an average class size of 200 students.

Teaching Assistant, Introduction to Scientific Computing | *Supervisor:* **Dimitrios Damopoulos** 2017—2020
- Instructed 15-25 students each semester in weekly in-person labs using MATLAB assignments designed to teach basic scientific computing paradigms. Developed course material with instructor supervision.

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.

## PROFESSIONAL ASSOCIATIONS

**Sigma Pi Sigma Physics Honor Society** *Lifetime Member* 2019

**American Physical Society** *General Member* 2016

## GRANTS and FUNDING

**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*

## SKILLS and TECHNIQUES

**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

## COMMUNITY INVOLVEMENT

**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

- Responsible for requesting/defending semesterly budget between $2000 and $5000 as well as planning lectures, research colloquiums, scheduling events for physics majors, and organization-led outreach programs in the Hoboken Grade Schools both on and off-campus.

## RELEVANT COURSEWORK

**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