Adam J. Coscia – Curriculum Vitae

Email: acoscia125@gmail.com | Website: https://adamcoscia.github.io/

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 — May 2020

RESEARCH EXPERIENCE

Georgia Institute of Technology — Atlanta, GA
Graduate Research Assistant | Advisor: **Alex Endert** — 2020—present
- Member of the Visual Analytics Lab.
- Developing interactive visual analytics tools that help people make sense of data by 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

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

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
- Four-year semesterly stipend award; selected upon admission from top 10% of applicant pool.

Alfred M. Mayer Prize, Stevens Institute of Technology 2020
- 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 and PRESENTATIONS

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

Georgia Institute of Technology Atlanta, GA

Graduate Teaching Assistant, *Data Visualization Principles (CS 6730)* | Instructor: **Alex Endert** Fall 2022
- Assisted professor with grading, exam reviews, in-class worksheets, and testing material preparation.

Stevens Institute of Technology Hoboken, NJ

Course Assistant, *Honors Electricity & Magnetism (PEP 112)* | Instructor: **Christopher Search** 2018—2020
- Assisted professor with grading, exam reviews, in-class worksheets, and testing material preparation.

Course Assistant, *Electricity & Magnetism (PEP 112)* | Instructor: **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 (CS 105)* | Instructor: **Dimitrios Damopoulos** 2017—2020

- Instructed 15-25 students weekly via 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.

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*

SERVICE and ASSOCIATIONS

Reviewer

IEEE Transactions on Visualization and Graphics (**TVCG**) 2022

IEEE Visualization (**VIS**) 2022

Member

Sigma Pi Sigma (**SPS**) Physics Honor Society 2019—present

American Physical Society (**APS**) 2016—2020

SKILLS and TECHNIQUES

Software Engineering

Data Visualization

- *Environments*: Java/TypeScript, Python, R, Tableau, MATLAB
- *Libraries*: D3.js, Three.js, matplotlib, seaborn, ggplot2

Data Acquisition and Warehousing

- *Environments*: SQL, Python, Apache Hive / Hadoop / Spark, Oracle, Redis, AWS S3
- *Libraries*: Scrapy, BeautifulSoup

Data Analysis

- *Environments*: Python, R, MATLAB
- *Libraries*: pandas, NumPy, SciPy, scikit-learn, py-torch

Web Development

- *Environments*: Angular, Vue.js, Node.js
- *Libraries*: jQuery, Bootstrap, D3.js, Socket.IO / Express / Axios

Other

- Git, Jupyter Notebook, Visual Studio Code, Java, C/C++

Simulation

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

Georgia Institute of Technology Atlanta, GA

Human-Computer Interaction

- Principles of User Interface Software *(CS 6456)*
- Qualitative Methods for Design of Human Computer Interaction *(CS 6456)*
- Information Visualization *(CS 7450)*

Cognitive Science

- Introduction to Cognitive Science *(CS 6795)*
- Special Topics: Cognitive Science *(CS 8001)*

Stevens Institute of Technology Hoboken, NJ

Computer Science

- Discrete Mathematics *(CS 135)*
- Data Structures *(CS 284)*
- Algorithms *(CS 385)*
- Creative Problem Solving and Team Programming *(CS 370)*
- Database Management Systems *(CS 442)*

Mathematics

- Differential Equations *(MA 221)*
- Multivariable Calculus *(MA 227)*
- Linear Algebra *(MA 232)*
- Advanced Calculus (Real Analysis) *(MA 547)*

Statistics

- Probability and Statistics *(MA 222)*
- Intermediate Statistics (*MA 331)*

Math Methods / Applications

- Thermal & Statistical Physics *(PEP 330)*
- Mathematical Methods for Physicists I & II (Tensors, Fluids, Dynamics) *(PEP 527 & 528)*
- Computational Physics (Numerical Methods, Machine Learning) *(PEP 520)*

Physics

- Mechanics *(PEP 538)*
- Electromagnetism *(PEP 542)*
- Quantum Mechanics I & II *(PEP 553 & 554)*
- Solid State Physics *(PEP 503)*
- Physics of Biological Systems *(PEP 305)*

COMMUNITY ENGAGEMENT

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.