

LOUISA CONWILL

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EDUCATION

University of Notre Dame	Notre Dame, IN
<i>Ph.D. Computer Science and Engineering</i>	2021 - 2027 <i>expected</i>
Academic advisor: Dr. Walter Scheirer	
<i>M.S. Computer Science and Engineering</i>	2021 - 2025
University of Mary	Bismarck, ND
<i>Graduate Certificate, Professional Campus Ministry</i>	2020
Brown University	Providence, RI
<i>Sc.B. Computer Science</i>	2013 - 2017

PUBLICATIONS

Refereed Conference Papers

Conwill, L., Scheirer, M.L., & Scheirer, W.J. “Do We Need Subsidiarity in Software?” [Accepted for Publication at the *ACM CHI Conference on Human Factors in Computing Systems 2026*.]

Best Paper Honorable Mention Award (Top 5%)

Conwill, L., Levis, M.K., Badillo-Urquiola, K., & Scheirer, W.J. “Design Patterns for the Common Good: Building Better Technologies Using the Wisdom of Virtue Ethics.” In *CHI Conference on Human Factors in Computing Systems (CHI '25)*, April 26-May 1, 2025, Yokohama, Japan.

Ozturk, K*, **Conwill, L.***, Gutierrez, J., Bowyer, K., and Scheirer, W. “A Comprehensive Framework for the Study of the Effects of Facial Filters on Recognition Accuracy.” [Accepted for publication at the *IEEE International Joint Conference on Biometrics (IJCB) 2025*].

*Indicates co-first authors: both authors contributed equally to this work.

Reviewed Conference Papers

Conwill, L., Anthony, S., & Scheirer, W.J. “Has the Virtualization of the Face Changed Facial Perception? A Study of the Impact of Photo Editing and Augmented Reality on Facial Perception.” In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24)*, May 11–16, 2024, Honolulu, HI, USA.

Books

Conwill, L., Levis, M., & Scheirer, W. *Virtue in Virtual Spaces: Catholic Social Teaching and Technology*. Liturgical Press, September 2024.

Periodicals

Conwill, L. “Virtue in Virtual Spaces: Catholic Social Teaching as an Alternative.” *Church Life Journal*, December 3rd, 2024.

Accepted for Publication

Karr Jr., J.A., Lad, M., Hernandez, D. **Conwill, L.**, Scheirer, W.J. and Chawla, N. “Equivocation and Erosion: How LLMs Undermine Catholic Religious Discourse.” [Accepted for Publication at the *Adaptive Faith Conference; Al-Mahdi Institute; Birmingham, England*]

PRESENTATIONS

Conference Talks

SPIRITED '25. “*Virtue in Virtual Spaces: Catholic Social Teaching and Technology.*”

Al Mahdi Institute. “*Equivocation and Erosion: How LLMs Undermine Catholic Religious Discourse.*” with J. Karr. Adaptive Faith Conference: November 2025, Birmingham, England.

ACM CHI Conference on Human Factors in Computing Systems. “*Design Patterns for the Common Good: Building Better Technologies Using the Wisdom of Virtue Ethics.*” May 2025, Yokohama, Japan.

Notre Dame De Nicola Center for Ethics and Culture. “*What Is Owed to Persons in Digital Spaces? Evaluating Popular Social Media Applications Through the Lens of Catholic Social Teaching.*” ‘Dust of the Earth’: On Persons. November 2023, Notre Dame, Indiana.

Notre Dame Center for Social Concerns. “*Using Catholic Social Teaching to Develop Virtuous Social Technologies.*” Justice Sown in Peace: Celebrating 60 Years Since Pacem in Terris. March 2023, Notre Dame, Indiana.

Notre Dame De Nicola Center for Ethics and Culture. “*Using Catholic Social Teaching to Develop Virtuous Social Technologies.*” ‘And It Was Very Good’: On Creation. November 2022, Notre Dame, Indiana.

Franciscan University. “*Using Catholic Social Teaching to Develop Virtuous Social Technologies.*” Software/Cyber Engineering Ethics Conference: Virtue in a Virtual World. October 2022, Steubenville, Ohio.

Posters

Osaka, Japan, “*A Comprehensive Evaluation Framework for the Study of the Effects of Facial Filters on Face Recognition Accuracy.*” IJCB 2025, September 2025.

Honolulu, Hawaii, “*Has the Virtualization of the Face Changed Facial Perception? A Study of the Impact of Augmented Reality and Photo Editing on Facial Perception.*” CHI 2024, May 2024

University of Notre Dame London Global Gateway, “*Has the Virtualization of the Face Changed Facial Perception? A Study of the Impact of Augmented Reality on Facial Perception.*” Workshop on Humans, Deep Networks & Face Recognition, March 2023.

University of Notre Dame, “*Using Catholic Social Teaching to Develop Virtuous Social Technologies.*”
Rome Call for AI Ethics, November, 2022.

Invited Talks

“Virtue in Virtual Spaces,” with M. Levis and W. Scheirer, invited talk at the Oxford Collaboration in Theology and Artificial Intelligence Workshop, hosted on Zoom by Oxford University, March 2025.

“Artificial Intelligence, What it Is, and What it Is Not,” invited talk at *Diocese of Raleigh Priest Assembly 2025*, Wrightsville Beach, North Carolina, January 2025. (Coordinated by the McGrath Institute for Church Life.)

“Virtue in Virtual Spaces: Catholic Tradition and the Digital Age,” with M. Levis, invited talk at *Gold Mass Lecture*, Benedictine University, Lisle, Illinois, November 2024.

“Virtue in Virtual Spaces: Catholic Social Teaching and the Internet,” invited talk at *Catholic Newman Night*, The Pittsburgh Oratory Catholic Newman Center, Pittsburgh, Pennsylvania, October 2024.

“Virtue in Virtual Spaces: Catholic Social Teaching and the Internet,” with M. Levis and W. Scheirer, invited panel talk at *Catholic Social Teaching and Technology: Reimagining the Internet*, a SPIRE conference sponsored by the Center for Social Concerns at Notre Dame, Mumbai, India, March 2024.

“Discernment Takeaways From My Journey as a Catholic and a Scientist.” Society of Catholic Scientists Breakfast, University of Notre Dame, Notre Dame, Indiana, February 2023.

RESEARCH AND WORK EXPERIENCE

University of Notre Dame

Graduate Research Assistant, Department of Computer Science and Engineering

Notre Dame, IN

2021 - present

Research Projects:

- Virtue ethics and Catholic Social Teaching as frameworks for technology ethics
- Human and machine perception of faces filtered with social media filters

Academic advisor: Dr. Walter Scheirer

Fellowship of Catholic University Students

Campus Missionary

Pittsburgh, PA

2019 - 2021

- Invited college students at Carnegie Mellon University deeper into the Catholic faith through leading two weekly Bible studies with 2-8 participants, leading faith mentorship meetings, and hosting large group formation events.
- Fundraised annual salary of \$50,000 and maintained relationships with donors through individual contact and quarterly newsletter.
- Helped coordinate and execute retreats, conferences, and domestic and international service trips.

Amazon

Software Development Engineer

Cambridge, MA

2017 - 2019

- Designed the database schema for, and implemented in Java, a major component of the primary system used internally to generate datasets for training Alexa machine learning models and generating business reports, handling thousands of transactions per second. Promoted the new system to users through large group presentations and one-on-one onboarding.
- Worked as a security reviewer, verifying that software built by teams across Alexa met Amazon's security standards before deployment.
- Maintained team's codebase, adding new features and fixing bugs. Participated in a monthly/bi-monthly on-call rotation, fixing issues with the team's software and responding to pages outside of work hours for urgent issues.

Amazon

Cambridge, MA

Software Development Engineer Intern

Summer 2016

- Developed a user interface to determine whether specific utterances were supported in the Automatic Speech Recognition models and Natural Language Understanding models currently in production for the Alexa speech recognition platform.

Amazon

Seattle, WA

Software Development Engineer Intern

Summer 2015

- Worked on the Amazon Link Electronic Data Interchange team. Developed a framework in Java to automate the running of Apache Spark applications that collect metrics through parsing large numbers of log files.

TEACHING EXPERIENCE

Guest Lecturer

University of Notre Dame

Notre Dame, IN

- Guest Lectures for Walter Scheirer, CSE 40175: Ethical and Professional Issues (Fall 2025). Topics: Heidegger's *Question Concerning Technology*, Persuasive Design & Design Patterns.
- Guest Lecture for Annalisa Szymanski, CSE 40424: Human-Computer Interaction (Spring 2025). Topic: Ethics and Human-Computer Interaction.
- Guest Lectures for Walter Scheirer, CSE 40535: Computer Vision (Spring 2025). Topics: Extraction of Visual Features — SIFT and SURF algorithms, Histogram of Oriented Gradients, Local Binary Patterns (two lectures); Geometric Transformations (one lecture).
- Guest Lecture for Greg White, CSC 33950: Appalachia (Spring 2025). Topic: Catholic Social Teaching as Lens to see Appalachia.
- Guest Lecture for EG 10117: First Year Engineering Design (Fall 2023, Fall 2024). Topic: Discerning the Computer Science and Engineering Major.
- Guest Lecture for Bill Theisen, CSE 30872: Programming Challenges (Fall 2023). Topic: Graduate School.
- Guest Lecture for Megan Levis, STV/TEC/EG 33999: Technology, Self, and Society (Fall 2022, Spring 2023, Spring 2024). Topic: My Career Discernment Path.

Saint Mary's College

Notre Dame, IN

- Guest Lecture for Lois Scheirer, BUAD 437: Artificial Intelligence Marketing (Spring 2025). Topic: Technology Ethics.

Teaching Assistant

University of Notre Dame
Computer Science and Engineering Department

Notre Dame, IN

- CSE 40535: Special Studies: Computer Vision (Spring 2025)
- CSE 40175: Ethical and Professional Issues (Fall 2021, Spring 2022, Fall 2024, Fall 2025, Spring 2026)

Brown University
Computer Science Department

Providence, RI

- CS17: Integrated Introduction to Computer Science, Semester I (Fall 2014, Fall 2015)
- CS18: Integrated Introduction to Computer Science Semester II (Spring 2016, **Head TA**)
- CS22: Introduction to Discrete Structures and Probability (Spring 2015)
- CS157: Design and Analysis of Algorithms (Fall 2016)
- CS138: Distributed Systems (Spring 2017, **Head TA**)

SERVICE

University of Notre Dame College of Engineering
Engineering College Council Representative

Notre Dame, IN
2025 - 2026

- Attend monthly meetings, contributing to discussions and policy decisions that affect the college

Vatican Dicastery for Culture and Education AI Working Group
External Reader

2025

- Read draft of *AI, Education, and Integral Human Development* book and provided feedback

GRANTS AND FELLOWSHIPS

University of Notre Dame
Graduate School Professional Development Award
Notebaert Professional Development Fund

Notre Dame, IN
2025

\$600 Award for Conference Travel

Duquesne University
Carl G. Grefenstette Center for Ethics in Science, Technology and Law
National Research Scholars Program

Pittsburgh, PA
2025-2026

Monthly discussions with other scholars, \$2000 stipend

University of Notre Dame Notre Dame, IN
Center for Social Concerns 2023-2024
Graduate Justice Fellowship *Faculty mentorship, \$3000 stipend*

University of Notre Dame Notre Dame, IN
de Nicola Center for Ethics and Culture 2023-present
Sorin Fellows Program *Conference funding and programming*

AWARDS AND HONORS

Catholic Media Association Book Awards
Second Place, Catholic Social Teaching Category, for *Virtue in Virtual Spaces* 2025

Catholic Media Association Book Awards
Second Place, Pastoral Ministry – Parish Life Category, for *Virtue in Virtual Spaces* 2025

University of Notre Dame Notre Dame, IN
Computer Science and Engineering Department Outstanding Teaching Assistant Award 2022

Toastmasters International Cambridge, MA
Area 35 Table Topics Contest First Place Winner 2019

Brown University Providence, RI
The Gladys C. and Sherwin J. Kapstein Family Fund Award for Interfaith Leadership 2017

LEADERSHIP ACTIVITIES

Brown University Peer Advising 2014-2017

- Meiklejohn Peer Advisor—Partnered with a faculty advisor to guide a group of students throughout their first year with course selection and adjustment to university life (Fall 2014 - Spring 2016).
- Women in Computer Science Mentor—Worked one-on-one with a female computer science student at Brown, providing advice on academics and how to navigate a male-dominated field (Spring 2015 – Spring 2017).

Brown-RISD Catholic Community Pastoral Council 2014-2016

- Served as one of two Co-Coordiators from Fall 2015 to Fall 2016, providing support, vision, and guidance to further the community’s mission and ensure coordination among its leaders.
- Served as Fellowship Coordinator in the 2014-2015 academic year, focusing on strengthening the bonds among members of the community.

Avi Schafer Interfaith Shabbat Co-Chair, Brown University

2017

- Served as one of two primary coordinators for the Avi Schaefer Interfaith Shabbat, a Shabbat dinner and weekend of events fostering interfaith understanding. Worked with Brown University chaplains and students from various religious backgrounds to organize events for the weekend.