



2024

CV

RANDY CONNOLLY

PROFESSOR

RANDY CONNOLLY

HELLO

I am a tenured full professor in the Department of Mathematics and Computing at Mount Royal University in Calgary, Canada. I also teach in my university's General Education department. My teaching specialties are web application development, technology and society studies, and, believe it or not, art and cultural history.

YEARS TEACHING

26

Professor

Dept. Mathematics and Computing
Mount Royal University
Calgary, Canada
rconnolly@mtroyal.ca
www.randyconnolly.com

ACADEMIC HIGHLIGHTS

- ◆ 4 books (each 1000+ pages, translated into multiple languages, used at 100s of universities world-wide, and read by thousands of students every year)
- ◆ 48 peer-reviewed papers
- ◆ 2 advising guidebooks in English and French about computing careers
- ◆ 21 research presentations
- ◆ 3 best paper awards
- ◆ 8 invited international presentations
- ◆ 1 teaching award
- ◆ 2 keynote speaker appearances

RESEARCH

My research has oscillated between my two backgrounds of computer science and political science. At present, I have four on-going research projects:

- the teaching of web development.
- the social effects of computing, especially on citizenship orientations.
- disciplinarity within computing education, in particular, how to communicate the nature of the different computing disciplines to outsiders.
- expanding computing education to reflect its close coupling with the social and human lifeworlds.

AGE

60

Born:
1964

SERVICE

On the editorial board for the most important international academic journal in the field of computing education (*ACM Transaction on Computing Education*).

On editorial advisory board for widely-subscribed international magazine on computing education (*ACM Inroads*).

From 2012-2015, was on the executive board of the international organization for my discipline (ACM SIGITE). In 2018, I was Editor-in-chief for *ACM Computers & Society*.

RANDY CONNOLLY
RICARDO HOAR

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ar
Web Development
FUNDAMENTALS OF

Fundamentals of WEB DEVELOPMENT

Third Edition

This is my latest book

It has been translated into multiple languages, adopted at hundreds of universities worldwide, and is used by thousands of students every year.

TIMELINE

2024

Fundamentals of Web Development Book

Third Edition, Pearson, 2022

Fundamentals of Web Development Book

Second Edition, Pearson, 2017

Fundamentals of Web Development Book

First Edition, Pearson, 2013

1997-Present

Professor [2014]

Associate Professor [2008]

Instructor [1997]

Mount Royal University, Calgary, Canada

Core ASP.NET Book

Prentice Hall, 2007

1995-2006 Consultant

Web Development

Calgary, Canada

Phoenix, US

1992-1999

PhD Political Science

McGill University, Montreal, Canada

1991-1992 Programmer

Los Angeles, CA

1990-1991

MA Political Science

York University, Toronto, Canada

1988-1990

Undergrad Pleasure Years (Non-Computing)

University of Calgary, Canada

1984-1988 Software Startup

Partner

Calgary, Canada

1982-1986

BSc Computer Science

University of Calgary, Canada

1982

PUBLICATIONS

- 2023 Connolly, R. From Ethics to Politics: Changing Approaches to AI Education. In **Handbook of Critical Studies of Artificial Intelligence**. London: Edward Elgar Publishing.
- 2023 Connolly, R. Public Computer Intellectuals in an Age of AI Crisis. **ACM Transactions in Computer Education**, submitted.
- 2023 Connolly, R. Why We Should Supplement Ethics with Citizenship. **ACM International Conference on Information Technology for Social Good**.
- 2023 Roberts, M., Miller, J, Connolly, R. Digital Citizenship and the Big Five Personality Traits. **Informatics**, 10 (3).
- 2023 Connolly, R. Datafication, Platformization, Algorithmic Governance, and Digital Sovereignty: Four Concepts You Should Teach. **ACM Inroads** 14(1).
- 2022 Connolly, R. Can Citizenship Education Benefit Computing? **Informatics**, 9 (4).
- 2022 Connolly, R., & Miller, J., Evaluating and Revising the Digital Citizenship Scale. **Informatics** 8 (1).
- 2022 Connolly, R., & Hoar, R. **Fundamentals of Web Development, Third Edition**. Boston: Pearson.
- 2021 Miller, J., Connolly, R., Uzoka, F.M., Keavey, K., & Khemka, N. IT Project Management: Success, Failure, and Risk Factors. **International Journal of Business Information Systems** (Forthcoming).
- 2020 Connolly, R. Why Computing Belongs Within the Social Sciences. **Communications of the ACM** 63 (8).
- 2020 Connolly, R. Outside and Inside Our Great City: Helping Career Advisors Understand Computing. **ACM Inroads** 11 (2).
- 2019 Connolly, R., Miller, J., Uzoka, F.M. **Computing Careers & Disciplines: A Quick Guide for Career Advisors and Prospective Students, Second Edition**. Toronto: CERIC.

PUBLICATIONS

- 2018 Connolly, R. Facing Backwards While Stumbling Forwards: The Future of Teaching Web Development. In **Proceedings of SIGCSE'19: The 51st ACM Technical Symposium on Computer Science Education**.
- 2018 Uzoka, F.M., Keavey, K., Miller, J., Khemka, N., & Connolly, R. Familiar Novelty? Critical Skills for IT Project Management. **International Journal of Information Technology Project Management** 9(4).
- 2018 Miller, J., Connolly, R. Not Every Computer-Related Job is IT. **Careering** 2025, pp. 21-24.
- 2018 Connolly, R., Miller, J., Uzoka, F.M. **Disciplines Informatiques: Guide Rapide À L'intention Des Étudiants Et Des Conseillers En Orientation**. Toronto: CERIC.
- 2017 Connolly, R., Miller, J., Uzoka, F.M. **Computing Disciplines: A Quick Guide for Career Advisors and Prospective Students**. Toronto: CERIC.
- 2017 Connolly, R., & Miller, J. Offline, But On-Track: Reassessing Young People's Understanding of Citizenship. **ACM Computers & Society** 47 (3).
- 2017 Connolly, R., & Hoar, R. **Fundamentals of Web Development, Second Edition**. Boston: Pearson.
- 2016 Connolly, R., *et al.* Red Fish Blue Fish: Reexamining Student Understanding of the Computing Disciplines. In **Proceedings of SIGITE'16: The 17th Annual Conference on Information Technology Education** (Boston).
- 2015 Connolly, R., & Fedoruk, A. "Does Computing Need To Go Beyond Good and Evil Impacts?" **Journal of Information, Communication and Ethics in Society** 13 (3).
- 2015 Miller, C.S., & Connolly, R. "Introduction to the Special Issue on Web Development." **ACM Transactions on Computing Education** 15 (1).
- 2015 Miller, J., Connolly, R., & Racy, F. (2015). "Through the eyes of the beholder: University student leaders' understanding of citizenship." **Journal of Citizenship, Teaching and Learning** 10 (2).

Fully appreciating the overarching scope of CS requires weaving more than ethics into the reigning curricula.

BY RANDY CONNOLLY

Why Computing Belongs Within the Social Sciences

ON OCTOBER 23, 2009, Alan Greenspan, the Chair of the U.S. Federal Reserve, was testifying before Congress in the immediate aftermath of the September 2008 financial crash. Undoubtedly the high point of the proceedings occurred when Representative Henry Waxman pressed the Chair to admit "that your view of the world, your ideology, was not right," to which Greenspan admitted "Absolutely, precisely." Fast forward 10 years to another famous *mea culpa* moment in front of Congress, that of Mark Zuckerberg on April 11, 2018. In light of both the Cambridge

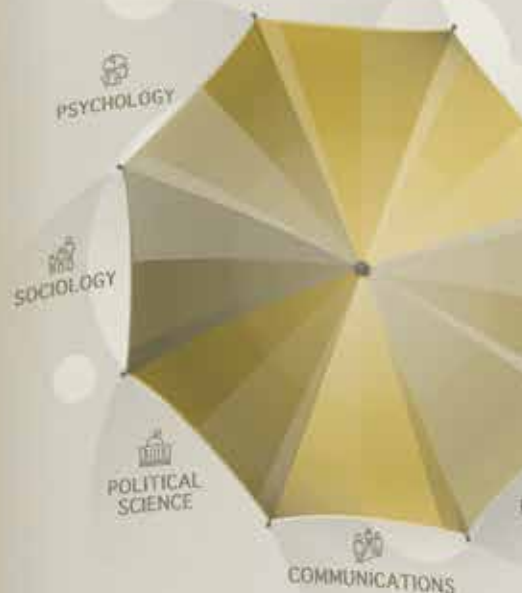
Analytica scandal and revelations of Russian interference in the 2016 U.S. election, Zuckerberg also admitted to do enough to prevent these tools from being used for harm. That goes for fake news, foreign interference in elections, and hate speech, as well as deepfakes and data privacy.

As far as *mea culpa* go, Greenspan's was considerably more concise, but also much more insightful as to the root problem. Greenspan admitted that the problem was not due to miswired license agreements, or to poorly written code, or to rogue developers. Instead he recognized the problem lay in a worldview that seemed to work for a while ... until it didn't. In the immediate aftermath of the financial crisis, there were calls for reforms, not only of the financial services industry, but also within universities, where it was thought that unrealistic models and assumptions within economics departments and business schools were also responsible for incalculating a worldview that led to the crisis. It is time for us in computing departments to do some comparable soul searching.

This article is one attempt at this task. It argues the well-publicized social ills of computing will not go away simply by integrating ethics instruction or codes of conduct into computing curricula. The remedy to these ills

Key Insights

- The social ills of computing will not go away simply by integrating more ethics instruction or codes of conduct into computing curricula.
- A better approach to addressing these problems would be to move the academic discipline of computing away from engineering-inspired curricular models and supplement it with the methods, theories, and perspectives of the social sciences.
- In practice, computing is already moving tentatively into the methodological and theoretical pluralism of the social sciences, but this movement has not been fully recognized within academic computing.



protest, lies less in philosophy and more in fields such as sociology, psychology, anthropology, communications, and political science. That is, because computing as a discipline is becoming progressively more entangled within the human and social lifeworld, computing as an academic discipline must move away from engineering-inspired, curricular models and integrate the analytic lenses supplied by social science theories and methodologies. To this end, three articles conclude by presenting three realistic recommendations for transforming academic computing in light of this recognition.

The World View of Computing
Academic departments are not one-dimensional monoliths, so right at the start I must acknowledge there is a wide range of perspectives and

beliefs at play in any individual computing department. It's also true that computing, like any academic discipline, has somewhat arbitrary intellectual demarcations: its boundaries are less like high fences and more like a series of irregular waxes that mark the rough borderlands around its domain. Computing, as a new field, initially had out a very preliminary series of markers to help distinguish it from mathematics and engineering. Perhaps the most important of these was computing's unique disciplinary way of thinking and practicing, which, as narrated by Tedre and Denning,²⁰ was variously labeled as "algorithmic," "algorithmic thinking," "algorithmics," and, more recently, as "computational thinking." Over the decades, the claims made about the utility and power of this mode of thinking became increasingly ambitious and by the 2000s it became



My August 2020 article in *Communications of the ACM*, which is the principal peer-reviewed academic journal for computing as a whole with a subscriber base over 100,000 a month. It is one of the top downloaded articles in all of computing this decade.

PUBLICATIONS

- 2014 Connolly, R., Friedman, R., & Miller, J. "A Longitudinal Evaluation of SIGITE Conference Submission Data, 2007-2012." In **Proceedings of SIGITE'14: The 15th Annual Conference on Information Technology Education** (Atlanta).
- 2014 Connolly, R. "Review of *Misunderstanding the Internet*." **The Humanities and Technology Review** 33.
- 2014 Connolly, R., & Hoar, R. **Fundamentals of Web Development, First Edition**. Pearson.
- 2014 Connolly, R., & Miller, J. Is Human Flourishing in the ICT World of the Future Likely? Evidence from Online Reading Research. In **Proceedings of 12th Annual Computer Ethics Philosophical Enquiry Conference** (Paris).
- 2014 Connolly, R., & Fedoruk, A. Why Computing Needs To Go Beyond Good And Evil Impacts. In **Proceedings of 20th Annual ETHI-COMP 2014** (Paris).
- 2013 Uzoka, M., Connolly, R., Schroeder, M., Khemka, N., & Miller, J. Computing is Not a Rock Band: Student Understanding of the Computing Disciplines. In **Proceedings of SIGITE'13: The 14th Annual Conference on Information Technology Education** (Orlando).
- 2013 Connolly, R. Tying Odysseus to the mast: research approaches to evaluating learning in online environments. In **Proceedings of International Conference on the Future of Education** (Florence).
- 2012 Connolly, R. "Criticizing and Modernizing Computing Curriculum: The Case of the Web and the Social Issues Courses". In **Proceedings of WCCCE'12: The 17th Western Canadian Conference on Computing Education** (Vancouver).
- 2012 Connolly, R. Is There Service in Computing Service Learning? In **Proceedings of SIGCSE'12: The 43rd ACM Technical Symposium on Computer Science Education** (Raleigh).
- 2011 Connolly, R. Awakening Rip Van Winkle: Modernizing the Computer Science Web Curriculum. In **Proceedings of ITiCSE'11: The 16th Annual Conference on Innovation and Technology in Computer Science Education** (Darmstadt, Germany).

PUBLICATIONS

- 2011 Connolly, R. Beyond Good and Evil Impacts: Rethinking the Social Issues Components in Our Computing Curricula. In **Proceedings of ITiCSE'11: The 16th Annual Conference on Innovation and Technology in Computer Science Education** (Darmstadt, Germany).
- 2011 Connolly, R. & Paterson, B. Even so with the pieces borrowed from others: Dressing an IS program in IT clothing. In **Proceedings of SIGITE'11: The 12th Annual Conference on Information Technology Education** (West Point, NY).
- 2010 Connolly, R. Small service is true service while it lasts: integrating web services into IT education. In **Proceedings of SIGITE'10: The 11th Annual Conference on Information Technology Education** (Midland, MI).
- 2009 Connolly, R. No longer partying like it's 1999: designing a modern web development stream. In **Proceedings of SIGITE'09: The 10th Annual Conference on Information Technology Education** (Fairfax, VA).
- 2009 Connolly, R. Complecto Mutatio: Teaching Software Design Best Practices Using Multi-Platform Development. **Information Systems Education Journal** 7 (70).
- 2007 Connolly, R. Embrace Change: Using Multi-Platform Game Development to Teach Layered Architectures. In **Proceedings of WCCCE'07: The 12th Western Canadian Conference on Computing Education** (Kamloops, BC).
- 2007 Connolly, R. Teaching Revulsion-Free Design Patterns through Game Development. In **Microsoft Academic Game Days Proceedings** (Orlando).
- 2007 Connolly, R. **Core Web Application Development with ASP.NET 2.0**. Prentice Hall.
- 2005 Connolly, R. A Funny Thing Happened on the Way to the Forum: Using Game Development and Web Services in an Emerging Technology Course. **Information Systems Education Journal** 3 (38).
- 2004 Connolly, R. Modern Eyes and WineHangOver.com: Evaluating ASP, JSP, and ASP.NET in the Classroom. In **Proceedings of WCCCE'04: The 9th Western Canadian Conference on Computing Education** (Kamloops, BC).
- 2001 Connolly, R. The Persistence and Rise of the Technological Community Ideal. In **Online Communities: Commerce, Community Action, and the Virtual University** (Prentice Hall).

Google

computing disciplines



Images

Videos

List

In computer science

News

Pdf

Shopping

Five

About 82,500,000 results (0.40 seconds)



CERIC

<https://ceric.ca> » Publications

Computing Careers & Disciplines: A Quick Guide for ...

The guide outlines the five distinct **computing disciplines** identified by the Association for Computing Machinery (ACM) and how the disciplines relate to ...

People also ask

What are the five disciplines of computing?

The five computing disciplines are:

- Computer science.
- Computer engineering.
- Information systems.
- Information technology.
- Software engineering.



CERIC

<https://ceric.ca> » Publications

Computing Careers & Disciplines: A Quick Guide for ... - CERIC

Search for: What are the five disciplines of computing?

What is computing a discipline?

Feedback

Association for Computing Machinery (ACM)

<https://www.acm.org> » [conferences](#) » [assets](#) » [publication](#) PDF

Computing Disciplines

Typically involves software, hardware, and the development of systems that involve software, hardware, and communications. • **Computer Science**. Currently the ...

AWARDS AND GRANTS

2022	Faculty of Science and Technology Grant Mount Royal University \$10,000
2019	Research Partnership Grant Canadian Education and Research Institute for Counselling \$10,145
2018	Faculty of Science and Technology Grant Mount Royal University \$8,210
2018	Internal Research Grant Mount Royal University \$5,000
2015	Research Partnership Grant Canadian Education and Research Institute for Counselling \$9,900
2011	Best Paper Award ITiCSE'11: 16th Annual Conference on Innovation and Technology in Computer Science Education (Darmstadt, Germany).
2010	Best Paper Award SIGITE'10: 11th Annual Conference on Information Technology Education (Midland, MI).
2004	Meritorious Writing Award ISECON'04: Information Systems Educators Conference (Newport, RI)
2003	Petro-Canada Innovation in Research and Teaching Award \$14,000
2002	Student Union Teaching Excellence Award Students' Association of Mount Royal College
1993-96	Petro-Canada Innovation in Research and Teaching Award \$14,000
1993-96	Doctoral Fellowship Social Sciences and Humanities Research Council of Canada \$42,048
1993	McGill Major Fellowship \$10,000

EDUCATION

1992-99

PhD Candidate, Political Science McGill University, Montreal, Canada

The reason I did not complete the PhD does require some explanation.

I did complete the course work, the candidacy exams, and in fact I completed the dissertation itself in January 1999. My supervisor, Charles Taylor, who is one of the world's most renown philosophers, thought it excellent, and indeed referenced it in his 2007 book, *A Secular Age*.

Unfortunately I was unable to defend (and gain my degree) for the following reason. Six months before I finished the dissertation, McGill reduced the maximum time length of a PhD to six years, which meant I had to finish all the degree requirements by June 1999.

The one remaining requirement for me was the second language requirement. At the time, McGill Political Science required its candidates to pass two foreign language translation exams (it has since lowered it to one). I had completed one of the language exams but not the second.

At that point in time, I was teaching full-time at Mount Royal, and had two children under six. There wasn't enough time in the two-month intersession period (May-June 1999) for me to learn another language sufficiently to pass a translation exam.

At the time, I tried to gain an extension to the time limit since I had taken an 16-month parental leave from September 1994 to January 1996, but was unsuccessful. As a consequence, even though I completed all the meaningful requirements, I was not allowed to defend by the June 1999 deadline.

Dissertation title: "WorldPerfect 7.0: The Rise And Persistence Of The Virtual Community Ideal In American Thought".

1990-91

MA Political Science York University, Toronto, Canada

1982-86

BSc Computer Science University of Calgary, Canada

RANDY CONNOLLY

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SERVICE

PRESENT-2013 Associate Editor.
ACM Transactions on Computing Education

PRESENT-2012 Editorial Advisory Board.
ACM Inroads

2019 Member.
Service Learning Research Advisory Board
NSF Grant

2018 Editor-in-chief.
ACM Computers & Society

2015-2012 Executive Board Member (Communications Director).
ACM SIGITE (Special Interest Group for IT Education)

2012 Conference Chair.
ACM SIGITE Conference (Calgary)

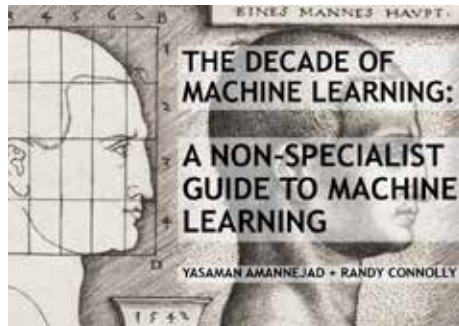
2011 Program Chair.
ACM SIGITE Conference (New York)

SELECTED PRESENTATIONS

- 2022** **Invited Speaker:** Why Computing Belongs Within the Social Sciences. **UNB Computer Science Annual Lecture** (Fredericton).
- 2022** **Invited Speaker:** Why Computing Belongs Within the Social Sciences. **Dalhousie University Research Seminar Series** (Halifax).
- 2021** **Invited Speaker:** Surprise! Your PhD is Actually in Social Science. At **Advanced CRT Summer School** (Cork, Ireland).
- 2020** **Invited Panelist:** Educating for a Humanistic Digital Future. At **Strategies for a Humanistic Digital Future** (Vienna, Austria).
- 2020** Co-Presenter: Computing Disciplines 2.0: What Career Advisors Need to Know. **Cannexus 2020**. (Ottawa).
- 2018** Co-Presenter: Emergent Adults' Conceptualization of Citizenship in a Post-Secondary Context. **International Congress of Applied Psychology** (Montreal).
- 2018** Co-Presenter: Computing Careers Explained! How Our New Guide Can Help You Advise Students. **CERIC Online Webinars**.
- 2018** Co-Presenter: Helping Prospective Students Understand the Computing Disciplines. **Cannexus 2018**. (Ottawa).
- 2017** **Keynote Talk:** Constructing a Web Development Textbook. At **Bar Camp (The Next Web)'17** (Salzburg, Austria).
- 2017** Presentation: The Web Development World of 2017: What Does a Manager Need to Know? At **International Master Forum 2017** (Krems, Austria).
- 2017** **Invited Speaker:** Disrupting the Digital Disruption Discourse. At **Vienna University of Applied Sciences for Management and Communication** (Vienna, Austria).
- 2017** **Invited Speaker:** Constructing a Contemporary Textbook. At **Faculty of Electrical Engineering, University of Ljubljana** (Ljubljana, Slovenia).
- 2015** Panelist: Towards a Better Understanding of the Different Computing Disciplines. At **SIGITE'15** (Chicago).
- 2013** **Invited Speaker:** Tying Odysseus to the mast: Using the research on online reading to resist the call of new educational technologies. At **Edge Hill University** (England).
- 2010** **Keynote Talk:** What's wrong with online reading. At **MRFA Retreat** (Banff, Canada).

ONLINE & PUBLIC SPEAKING

I have provided public talks on a variety of topics in five different countries. My talks are high energy, engaging, and visually stimulating.

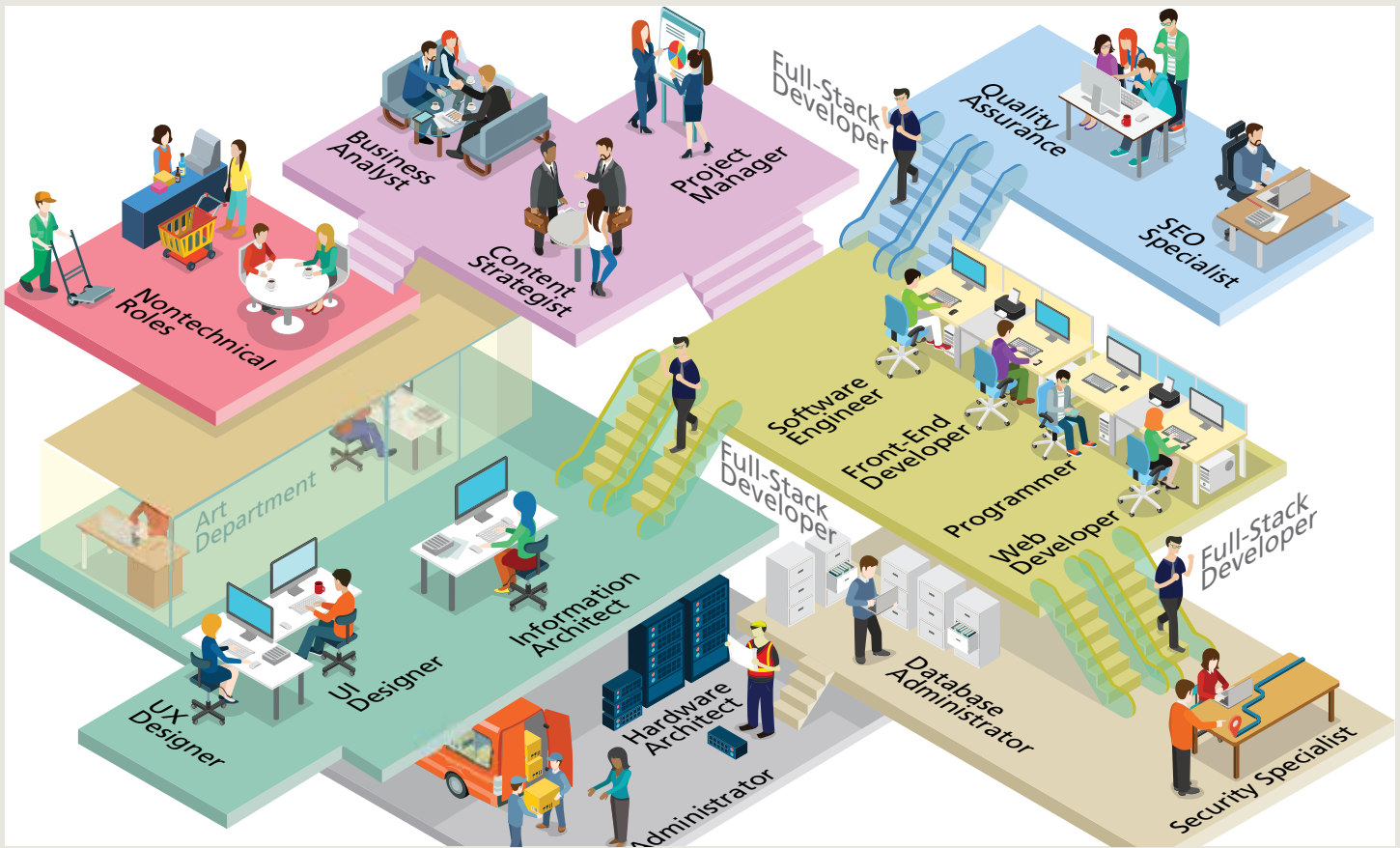


Our June 17, 2020 webinar on “Navigating Computing Career Pathways in 2020: What Advisors Need to Know” attracted over 1200 viewers.

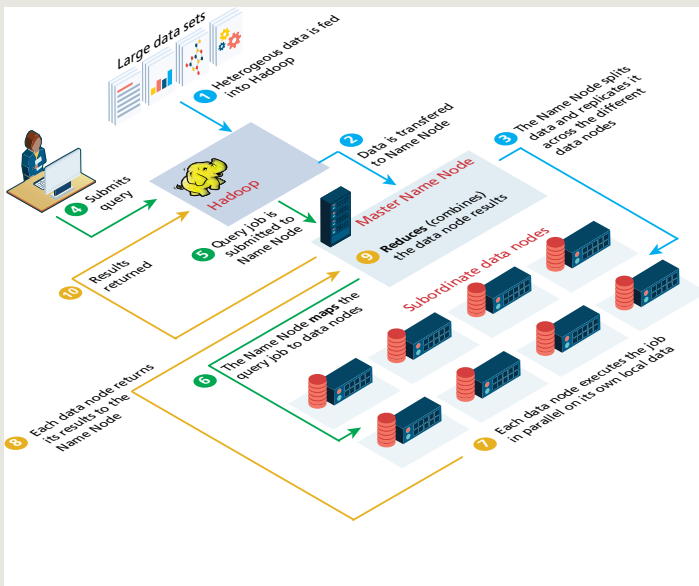
I am (or was) among slideshare’s top1% in terms of viewership, and my presentations as a whole have consistently received over 50,000 views every year.

<http://www.slideshare.net/randyconnolly>

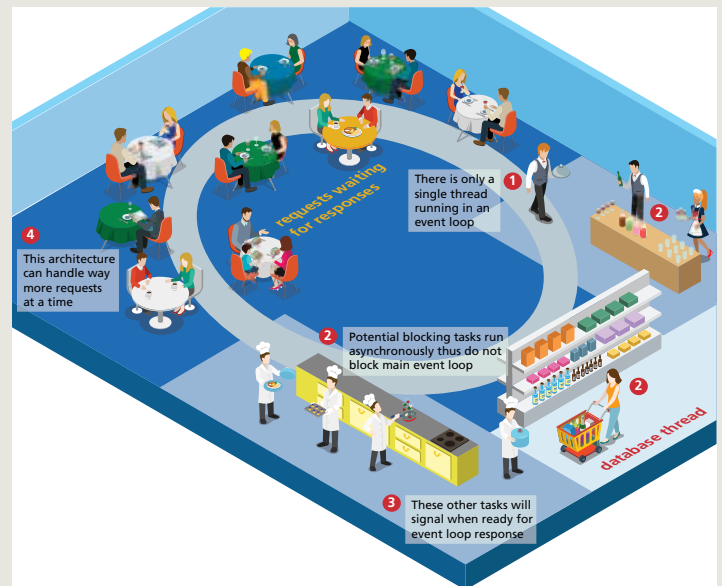
ILLUSTRATIONS



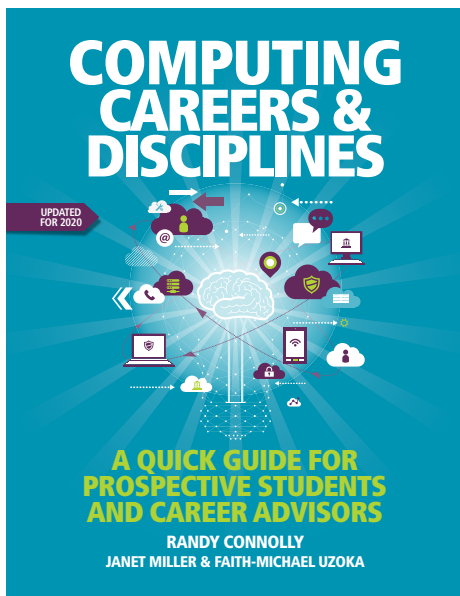
From Chapter 1 of Fundamentals of Web Development, Second Edition
Illustrating the different types of employment available within the web development world.



From Chapter 24 of same book
Illustrating the workflow of the Hadoop system for huge data sets.

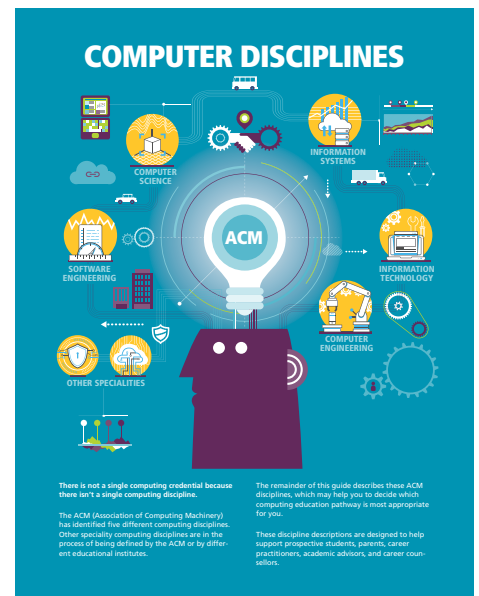


From Chapter 20 of same book
Illustrating the non-blocking architecture of node.js



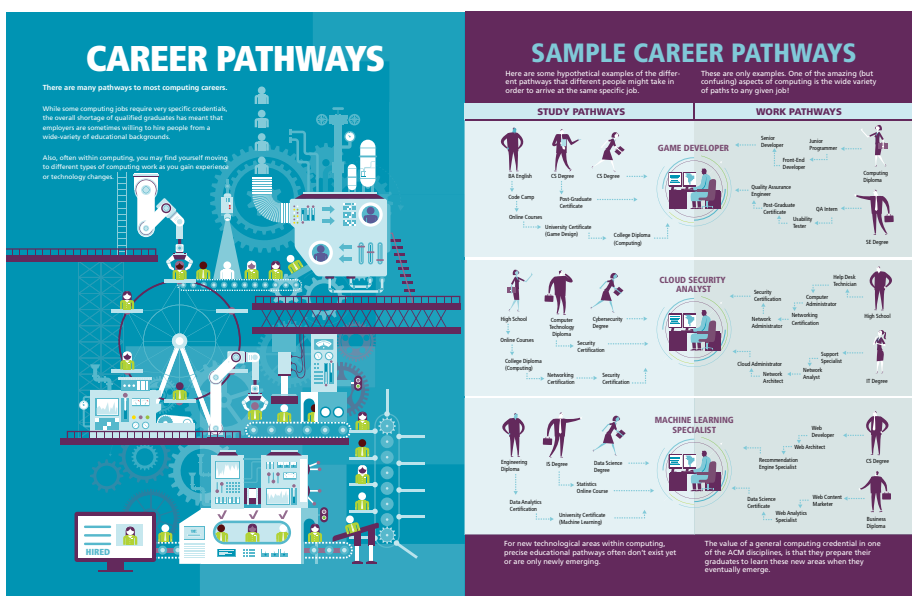
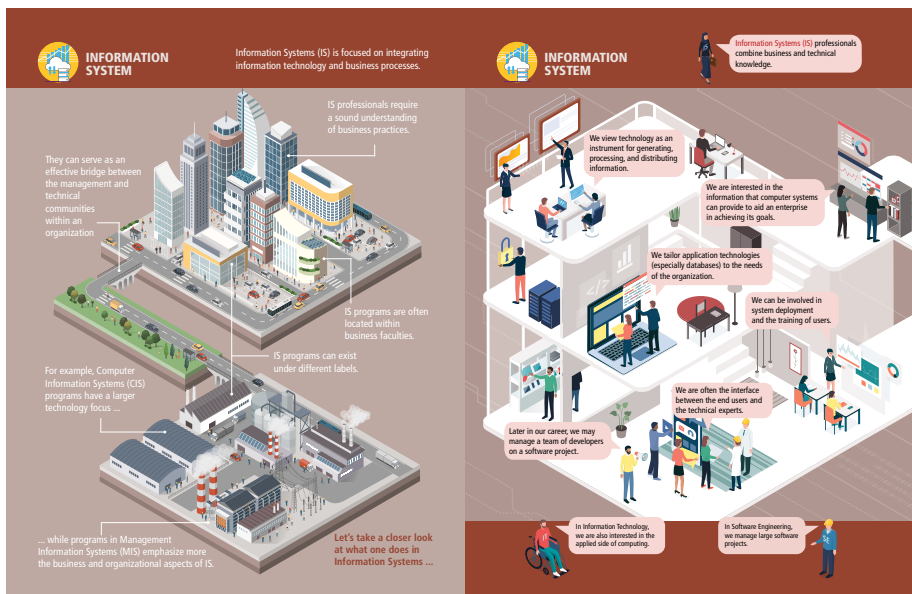
Computing Careers & Disciplines
 This 40-page full-cover booklet was created in conjunction with the Canadian Education and Research Institute for Counselling. Also translated into French, it has been distributed across Canada.

I created all the illustrations, designed the pages, and wrote most of the textual content.



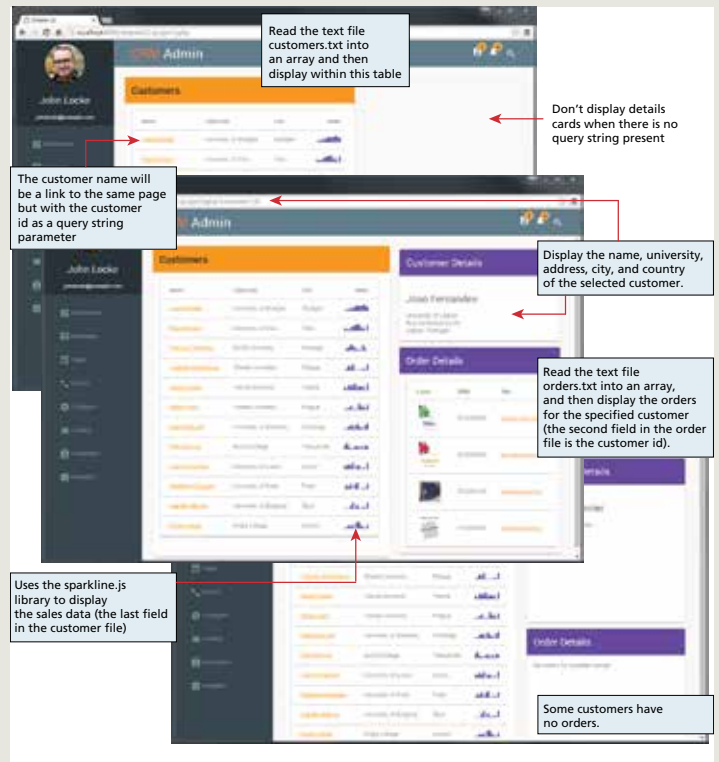
The booklet focuses on exploring computing careers by examining the different ACM computing disciplines .

Each ACM computing discipline has an outside/inside view of the discipline using a geographical metaphor.



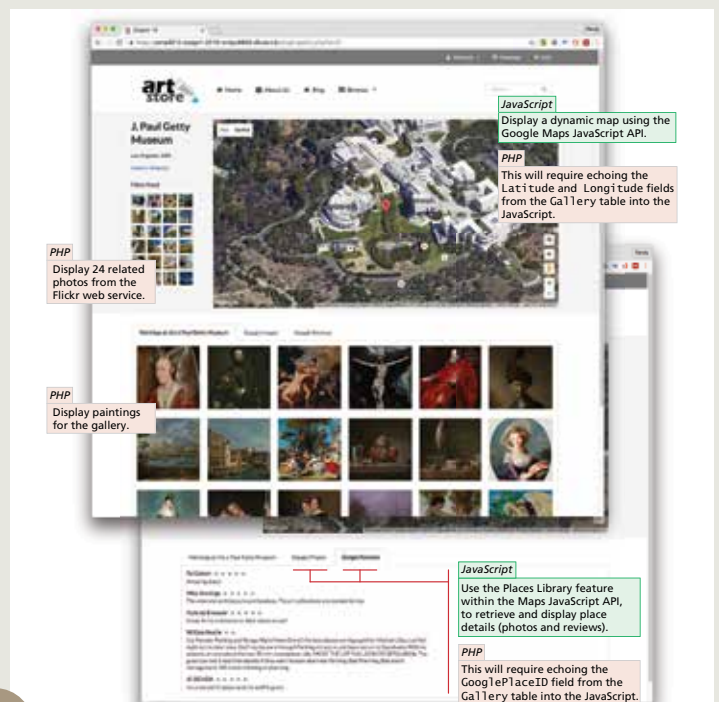
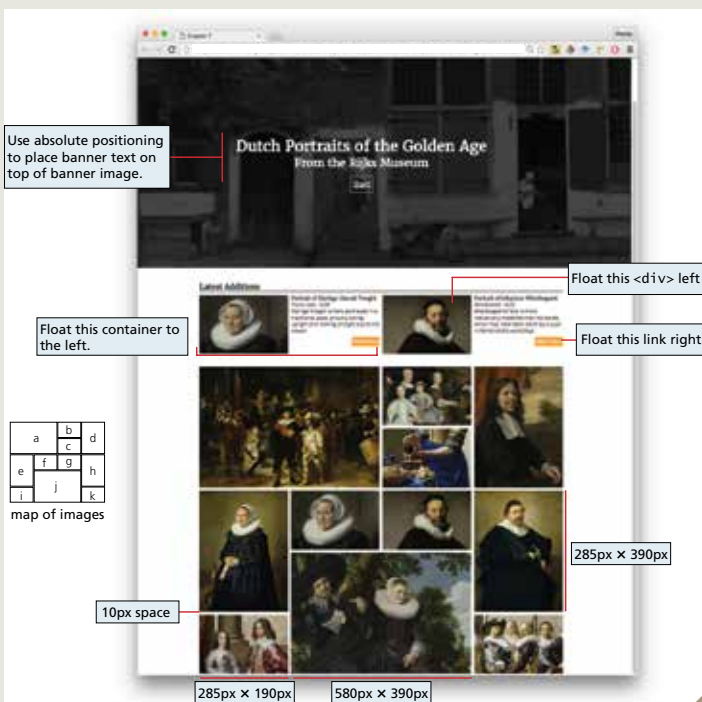
It uses an innovative pathway approach to explain the myriad of computing career and education combinations.

TEACHING MATERIAL



Sample practice exercises from Fundamentals of Web Development, Second Edition

My goal is to provide students with realistic and attractive case studies through which to learn web development.



TESTIMONIALS

“ Randy’s lectures are high energy, fun, and filled with practical knowledge presented in a way that makes complicated material easy to learn. His passion for his subject is infectious.”

Student evaluation 2015

“ I have to say that these authors have done a fantastic job on this new edition! The first edition was great too, but the revisions and new additions have made this the most up-to-date, high quality academic textbook I’ve read. They have done a great job showing how all these technologies fit together in the world of web development.

Sam Wainford Associate Professor and technical reviewer 2016

“ I’ve reviewed dozens of textbooks for use in my IT classes, but when I received a desk copy from the publisher, I was stunned at the wealth of content included in this book. Fundamentals of Web Development is exactly what I’ve been looking for. It’s a keeper - I’ve adopted this one..”

Amazon review 2015

“ Randy is extremely knowledgeable with a passion for teaching and his material. Lectures were often funny. The best teacher by far that I have encountered at Mount Royal University.”

Student evaluation 2015



RANDY CONNOLLY

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LEARN MORE

WWW.RANDYCONNOLLY.COM