Faculty

Jon Reifschneider

Director, AI for Product Innovation Master of Engineering Program

Jon Reifschneider is the Executive Director of Duke's Artificial Intelligence for Product Innovation Master's Program and teaches in it.

Prior to joining the Duke faculty, Jon spent 15 years in management roles at data services and analytics companies. Most recently Jon ran the Weather Analytics division at the tech company DTN, where he and his team created predictive analytics systems that are now core to the daily operations of most of the largest transportation, aviation and energy utility organizations across the US and globally. As a member of the DTN executive team, he led his division through a period of substantial expansion and completed the successful sale of the company in 2017.

Jon holds a B.S. in Mechanical Engineering from the University of Virginia where he graduated first in his class, a Master of Engineering Management from Duke University, a M.S. in Analytics from Georgia Tech, and a Global MBA from EBS (Germany). He has lived, worked and studied in the United States, Luxembourg, Germany and India.

APPOINTMENTS AND AFFILIATIONS

- Executive in Residence in the Engineering Graduate and Professional Programs
- Executive Director of the Master of Engineering in Artificial Intelligence for Product Innovation Program

CONTACT INFORMATION

- **Email Address:** jon.reifschneider@duke.edu
- **Websites:**
  - Duke Intelligent Learning Lab
  - MEng in AI for Product Innovation Program
  - Personal Website

COURSES TAUGHT

- MENG 552: Master of Engineering Supplemental Internship
- MENG 551: Master of Engineering Internship/Project Assessment
- MENG 550: Master of Engineering Internship/Project
- IDS 790: Special Topics in Interdisciplinary Data Science
- AIPI 591: Special Readings in AI for Product Innovation
- AIPI 590: Advanced Topics in AI for Product Innovation
- AIPI 549: Capstone Practicum 1
- AIPI 540: Deep Learning Applications
- AIPI 520: Modeling Process and Algorithms
- AIPI 510: Sourcing Data for Analytics
- AIPI 505: Mid-Program Residency
- AIPI 504: Introductory Residency
- AIPI 501: AIPI Seminar

IN THE NEWS

- Engineering Faculty Help Students Adapt to AI in the Classroom (Oct 20, 2023 | Pratt School of Engineering)
- New Master's Program Applies AI to Product Innovation (Aug 12, 2020)

- Duke Launches Graduate Certificate in AI for Product Innovation (Jun 1, 2020 | Pratt School of Engineering)

Brinnae Bent

Adjunct Assistant Professor in the Engineering Graduate and Professional Programs

I am currently an adjunct faculty member in Artificial Intelligence at Duke University and an AI/ML researcher.

As a leader in bridging the gap between research and industry in machine learning, I have led projects and developed algorithms for the largest companies in the world. More importantly, I have built algorithms that have meaningful impacts - from helping people walk to noninvasively monitoring glucose.

Learn more: https://runsdata.org

APPOINTMENTS AND AFFILIATIONS

- Adjunct Assistant Professor in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Email Address:** brinnae.bent@duke.edu
- **Websites:**
  - Personal Website
  - Digital Biomarker Discovery Pipeline

EDUCATION

- Ph.D. Duke University, 2021
- M.S. Duke University, 2018
- B.S. North Carolina State University, 2016

COURSES TAUGHT

- AIPI 540: Deep Learning Applications

REPRESENTATIVE PUBLICATIONS

- Grzywinski, R; D'Arcy, J; Naidoff, R; Shukla, A; Browne, A; Gibbons, R; Bent, B, *Releasing the CRaQAn (Coreference Resolution in Question-Answering): An open-source dataset and dataset creation methodology using instruction-following models* (2023) [abs].
- Hammond, WE; Bent, B; West, VL, *Goodbye Electronic Health Record?*, Stud Health Technol Inform, vol 298 (2022), pp. 107-111 [10.3233/SHTI220917] [abs].
- Robison, J; Gibbons, R; Achelis, D; Bent, B; Wajda, D; Webster, R, *Augmenting gait in a population exhibiting foot drop with adaptive functional electrical stimulation* (2022) [10.1101/2022.04.27.22273623] [abs].
- Cho, PJ; Yi, J; Ho, E; Shandhi, MMH; Dinh, Y; Patil, A; Martin, L; Singh, G; Bent, B; Ginsburg, G; Smuck, M; Woods, C; Shaw, R; Dunn, J, *Demographic Imbalances Resulting From the Bring-Your-Own-Device Study Design.*, JMIR Mhealth Uhealth, vol 10 no. 4 (2022) [10.2196/29510] [abs].
- Weitz, A; Colucci, L; Primas, S; Bent, B, *InfiniteForm: A synthetic, minimal bias dataset for fitness applications* (2021) [abs].

Xu Chen

Adjunct Assistant Professor in the Pratt School of Engineering

APPOINTMENTS AND AFFILIATIONS

- Adjunct Assistant Professor in the Pratt School of Engineering

CONTACT INFORMATION

- **Email Address:** xu.chen@duke.edu

EDUCATION

- Ph.D. University of Illinois, 2010
- B.S. Shanghai Jiao Tong University (China), 2006

COURSES TAUGHT

- AIPI 590: Advanced Topics in AI for Product Innovation

Alfredo Deza

Adjunct Assistant Professor in the Engineering Graduate and Professional Programs

Alfredo Deza is a software engineer, speaker, author, and former Olympic athlete working at Microsoft in Developer Relations. He has almost two decades of DevOps and software engineering experience, and has taught several Machine Learning Engineering and DevOps courses.

He has written several books about DevOps and Python including Python For DevOps and Practical MLOps for O'Reilly. Some of the areas of expertise where he can help out with content and guidance are Azure and cloud computing, DevOps, MLOps, Python, Databricks, and automation with CI/CD.

Alfredo is currently leading engagements with Georgia Tech, Universidad Politecnica de Madrid, and Duke University, where he often gives guest lectures about Azure, Python, Rust, and technology in general.

APPOINTMENTS AND AFFILIATIONS

- Adjunct Assistant Professor in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Email Address:** alfredo.deza@duke.edu

- **Websites:**
  - Coursera
  - LinkedIn Profile
  - Personal Page

EDUCATION

- C. Newton College (Peru), 1996

COURSES TAUGHT

- AIPI 503: Python Bootcamp

REPRESENTATIVE PUBLICATIONS

- Gift, N; Deza, A, *Practical MLOps Operationalizing Machine Learning Models* (2021) [abs].
- Deza, A; Gift, N, *Testing in Python Robust Testing for Professionals* (2020) [abs].
- Gift, N; Deza, A, *Minimal Python* (2020) [abs].
- Gift, N; Deza, A, *Python Command Line Tools Design Powerful Apps with Click* (2020) [abs].
- Gift, N; Behrman, K; Deza, A; Gheorghiu, G, *Python for DevOps: Learn Ruthlessly Effective Automation* (2019) [abs].

Noah Gift

Adjunct Associate Professor in the Pratt School of Engineering

Noah Gift lectures at MSDS, at Northwestern, Duke MIDS Graduate Data Science Program, and the Graduate Data Science program at UC Berkeley and the UC Davis Graduate School of Management MSBA program, and UNC Charlotte Data Science Initiative. He is teaching and designing graduate machine learning, A.I., Data Science courses, and consulting on Machine Learning and Cloud Architecture for students and faculty. These responsibilities include leading a multi-cloud certification initiative for students.

Noah is a Python Software Foundation Fellow. He currently holds the following industry certifications for AWS: AWS Subject Matter Expert (SME) on Machine Learning, AWS Certified Solutions Architect, and AWS Certified Machine Learning Specialist, AWS Certified Big Data Specialist, AWS Academy Accredited Instructor, AWS Faculty Ambassador. He also is certified on both the Google and Azure platform: Google Certified Professional Cloud Architect, Certified Microsoft MTA on Python. He has published over 100 technical publications including multiple books on subjects ranging from Cloud Machine Learning to DevOps. Publications appear in Forbes, IBM, Red Hat, Microsoft, O'Reilly, Pearson, Udacity, Coursera, datascience.com, and DataCamp. Workshops and Talks around the world for organizations including NASA, PayPal, PyCon, Strata, O'Reilly Software Architecture Conference, and FooCamp. As an SME on Machine Learning for AWS, he helped created the AWS Machine Learning certification.

He has worked in roles ranging from CTO, General Manager, Consulting CTO, Consulting Chief Data Scientist, and Cloud Architect. This experience has been with a wide variety of companies: ABC, Caltech, Sony Imageworks, Disney Feature Animation, Weta Digital, AT&T, Turner Studios, and Linden Lab, and industries: Television, Film, Games, SaaS, Sports, Telecommunications. He has film credits in many major motion pictures for technical work, including Avatar, Spider-Man 3, and Superman Returns.

He has been responsible for shipping many new products at multiple companies that generated millions of dollars of revenue and had a global scale. Currently, he is consulting startups and other companies, on Machine Learning, Cloud Architecture, and CTO level consulting as the founder of Pragmatic A.I. Labs.

His most recent books are:

Practical MLOps

Getting your models into production is the fundamental challenge of machine learning. MLOps offers a set of proven principles aimed at solving this problem in a reliable and automated way.

Publisher O'Reilly
Purchase Practical MLOps

Cloud Computing for Data Analysis

A practical guide to Data Science, Machine Learning Engineering and Data Engineering

Publisher: Pragmatic AI LabsRelease Date: (Early 2021)

- Purchase: Cloud Computing for Data - Book

Abstract

This book is designed to give you a comprehensive view of cloud computing including Big Data and Machine Learning. A variety of learning resources will be used including interactive labs on Cloud Platforms (Google, AWS, Azure) using Python. This is a project-based book with extensive hands-on assignments.

Read Chapters Online

- Chapter00: Introduction
- Chapter01: Getting Started
- Chapter02: Cloud Foundations
- Chapter03: Containers, Virtualization and Elasticity
- Chapter04: Distributed Computing
- Chapter05: Cloud Storage
- Chapter06: Serverless ETL
- Chapter07: Managed ML Systems
- Chapter08: Data Science Case Studies
- Chapter09: Essays
- Chapter10: Career

Additional Resources
Source Code

- Cloud Computing with Python Source Code

Minimal PythonPublisher: Pragmatic AI LabsRelease Date: 2020

- Purchase: Minimal Python - Book

- All Book Bundle
- Monthly Subscription

Abstract

Even books that have “learn” in the title introduce readers to hopelessly complex topics like object-oriented programming or concurrency. It turns out YAGNI (You Ain’t Gonna Need It). Why teach students topics they won’t use either ever, or not for a few years?

Read Chapters Online

- Chapter00: Introduction
- Chapter01: Execute Commands in Python
- Chapter02: Store Data
- Chapter03: Create Functions
- Chapter04: Test Functions
- Chapter05: Command Line Tools
- Chapter06: Build Web Apps Flask
- Chapter07: Data Science Pandas
- Chapter08: Data Science Libraries
- Chapter09: Get a Job in Tech
- Chapter10: Case Studies and War Stories

Additional ResourcesSource Code

- Minimal Python Book Source Code

Python Command Line Tools: Design powerful apps with ClickPublisher: Pragmatic AI LabsRelease Date: 2020

- Purchase: Minimal Python - Book
- Buy a copy of the book on Kindle
- Buy a hard copy of the book on Amazon
- All Book Bundle
- Monthly Subscription

Testing in PythonPublisher: Pragmatic AI LabsRelease Date: 2020

- Purchase: Testing in Python - Book
- Buy a copy of the book on Kindle
- All Book Bundle
- Monthly Subscription
- Buy a hard copy of the book on Amazon

Abstract

Getting started with testing can be hard, and this book aims make it all very easy by using examples and straightforwardly explaining the process. Testing is a core principle of robust software implementations and should be a prime skill to master that can be applied to any project.

Read Chapters Online

- Chapter01: Configuring The Environment
- Chapter02: Testing Conventions
- Chapter03: Introduction To Pytest
- Chapter04: Test Classes
- Chapter05: Reporting
- Chapter06: Debugging Pytest and pdb
- Chapter07: Pytest Fixtures
- Chapter08: Monkeypatching
- Chapter09: Testing Matrix Tox
- Chapter10: Continuous Integration Delivery
- Chapter11: Case Study War Stories
- Chapter12: Essays

Additional Resources

Source Code

- Testing in Python Book Source Code

Python For DevOps: Learn Ruthlessly Effective Automation
Publisher: O'Reilly MediaRelease Date: December 31st, 2019
Abstract

Much has changed in technology over the past decade. Data is hot, the cloud is ubiquitous, and many organizations need some form of automation. Throughout these transformations, Python has become one of the most popular languages in the world. This practical resource shows you how to use Python for everyday Linux systems administration tasks with today's most useful DevOps tools, including Docker, Kubernetes, and Terraform.

Learning how to interact and automate with Linux is essential for millions of professionals. Python makes it much easier. With this book, you'll learn how to develop software and solve problems using

containers, as well as how to monitor, instrument, load-test, and operationalize your software. Looking for effective ways to “get stuff done” in Python? This is your guide.

Python foundations, including a brief introduction to the language How to automate text, write command-line tools, and automate the filesystem Linux utilities, package management, build systems, monitoring and instrumentation, and automated testing Cloud computing, infrastructure as code, Kubernetes, and serverless Machine learning operations and data engineering from a DevOps perspective Building, deploying, and operationalizing a machine learning project

Pragmatic AI: An Introduction to Cloud-based Machine LearningPublisher: O’Reilly MediaRelease Date: December 31st, 2019

Abstract

Pragmatic AI will help you solve real-world problems with contemporary machine learning, artificial intelligence, and cloud computing tools. Noah Gift demystifies all the concepts and tools you need to get results—even if you don’t have a strong background in math or data science. Gift illuminates powerful off-the-shelf cloud offerings from Amazon, Google, and Microsoft, and demonstrates proven techniques using the Python data science ecosystem. His workflows and examples help you streamline and simplify every step, from deployment to production, and build exceptionally scalable solutions. As you learn how machine language (ML) solutions work, you’ll gain a more intuitive understanding of what you can achieve with them and how to maximize their value. Building on these fundamentals, you’ll walk step-by-step through building cloud-based AI/ML applications to address realistic issues in sports marketing, project management, product pricing, real estate, and beyond. Whether you’re a business professional, decision-maker, student, or programmer, Gift’s expert guidance and wide-ranging case studies will prepare you to solve data science problems in virtually any environment.

Python for Unix and Linux System AdministrationPublisher: O’Reilly MediaRelease Date: June 2009

Python is an ideal language for solving problems, especially in Linux and Unix networks. With this pragmatic book, administrators can review various tasks that often occur in the management of these systems, and learn how Python can provide a more efficient and less painful way to handle them.

Each chapter in Python for Unix and Linux System Administration presents a particular administrative issue, such as concurrency or

data backup, and presents Python solutions through hands-on examples. Once you finish this book, you'll be able to develop your own set of command-line utilities with Python to tackle a wide range of problems. Discover how this language can help you:

With this book, you'll learn how to package and deploy your Python applications and libraries, and write code that runs equally well on multiple Unix platforms. You'll also learn about several Python-related technologies that will make your life much easier.

His most recent video courses are:

His most recent online courses are:

You can follow Noah Gift on social media and on the web at:

-
  - Chapter02: Testing Conventions
  - Chapter03: Introduction To Pytest
  - Chapter04: Test Classes
  - Chapter05: Reporting
  - Chapter06: Debugging Pytest and pdb
  - Chapter07: Pytest Fixtures
  - Chapter08: Monkeypatching
  - Chapter09: Testing Matrix Tox
  - Chapter10: Continuous Integration Delivery
  - Chapter11: Case Study War Stories
  - Chapter12: Essays
  - Python Command Line Tools Book Source Code
  - Purchase: Testing in Python - Book
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  - Buy a hard copy of the book on Amazon
  - Chapter02: Testing Conventions
  - Chapter03: Introduction To Pytest
  - Chapter04: Test Classes

- Chapter05: Reporting
- Chapter06: Debugging Pytest and pdb
- Chapter07: Pytest Fixtures
- Chapter08: Monkeypatching
- Chapter09: Testing Matrix Tox
- Chapter10: Continuous Integration Delivery
- Chapter11: Case Study War Stories
- Chapter12: Essays
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- Python for DevOps Website
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- Read text files and extract information
- Run tasks concurrently using the threading and forking options
- Get information from one process to another using network facilities
- Create clickable GUIs to handle large and complex utilities
- Monitor large clusters of machines by interacting with SNMP programmatically

- Master the IPython Interactive Python shell to replace or augment Bash, Korn, or Z-Shell
- Integrate Cloud Computing into your infrastructure, and learn to write a Google App Engine Application
- Solve unique data backup challenges with customized scripts
- Interact with MySQL, SQLite, Oracle, Postgres,and SQLAlchemy
- Essential Machine Learning and A.I. with Python and Jupyter Notebook LiveLessons (Pearson, 2018)
- AWS Certified Machine Learning-Specialty (ML-S) (Pearson, 2019)
- Python for Data Science Complete Video Course Video Training (Pearson, 2019)
- AWS Certified Big Data - Specialty Complete Video Course and Practice Test Video Training (Pearson, 2019)
- Building A.I. Applications on Google Cloud Platform (Pearson, 2019)
- Pragmatic AI and Machine Learning Core Principles (Pearson, 2019)
- Data Engineering with Python and AWS Lambda (Pearson, 2019)
- Introduction to Jenkins for DevOps (Pearson, 2020)
- Microservices with this Udacity DevOps Nanodegree (Udacity, 2019)
- Command Line Automation in Python (DataCamp, 2019)
- AWS Certified Cloud Practitioner 2020-Real World & Pragmatic
- YouTube Channel: Pragmatic AI Labs
- www.noahgift.com
- Linkedin: https://www.linkedin.com/in/noahgift/
- Pragmatic AI Labs Website: www.paiml.com
- Github
- Get the latest content and updates from Pragmatic AI Labs: Subscribe to the mailing list!

APPOINTMENTS AND AFFILIATIONS

- Executive in Residence in the Social Science Research Institute

CONTACT INFORMATION

- **Email Address:** noah.gift@duke.edu
- **Websites:**
  - YouTube Channel
  - Noah Gift Personal Website
  - [Book] Python for DevOps: Learn Ruthlessly Effective Automation
  - Github
  - [Book] Pragmatic AI: An Introduction to Cloud-Based Machine Learning

EDUCATION

- M.B.A. University of California, Davis, 2013
- M.S. California State University, Los Angeles, 2003

COURSES TAUGHT

- IDS 793: Independent Study
- IDS 721: Data Analysis at Scale in Cloud
- IDS 706: Data Engineering Systems
- AIPI 561: Operationalizing AI

REPRESENTATIVE PUBLICATIONS

- Gift, N; Behrman, K; Deza, A; Gheorghiu, G, *Python for DevOps: Learn Ruthlessly Effective Automation* (2019) [abs].
- Gift, N, *Pragmatic AI An Introduction to Cloud-Based Machine Learning* (2018) [abs].
- Beazley, DM, *Python Essential Reference* (2009) [abs].
- Gift, N; Jones, J, *Python for Unix and Linux System Administration* (2008) [abs].

Wann-Jiun Ma

Adjunct Assistant Professor in the Engineering Graduate and Professional Programs

Wann-Jiun received his PhD in Electrical Engineering from University of Notre Dame in 2015, and then worked as a postdoctoral associate at Duke University. He has been working for both big and startup companies as a data scientist. Currently, he is the Director of Data Science/AI at Neiman Marcus Group. In addition to being a data science practitioner in the industry, he also collaborates with multiple data science MS programs and guides students as they work on their deep reinforcement learning capstone projects. His current research interests are deep learning/deep reinforcement learning/large language models and their real-life applications, especially product recommendations and personalization.

APPOINTMENTS AND AFFILIATIONS

- Adjunct Assistant Professor in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Email Address:** wann.jiun.ma@duke.edu
- **Websites:**
  - LinkedIn

EDUCATION

- D.Eng. University of Notre Dame, 2015

RESEARCH INTERESTS

Deep learning/deep reinforcement learning/large language models and their real-life applications.

COURSES TAUGHT

- AIPI 591: Special Readings in AI for Product Innovation
- AIPI 590: Advanced Topics in AI for Products Innovation
- AIPI 531: Deep Reinforcement Learning Applications
- AIPI 530: AI in Practice

Pramod Singh

Adjunct Associate Professor in the Engineering Graduate and Professional Programs

Dr. Pramod Singh is a distinguished and award-winning analytics and data science leader with over 25 years of global experience across diverse industries. As the former Chief Analytics Officer and Vice President of Data Sciences and Analytics at Envestnet | Yodlee (April 2015- Oct 23), he led teams of data scientists, analytics engineers, and business analysts, driving the development and implementation of cutting-edge analytics solutions that significantly contributed to organizational growth. Notably, he implemented an enterprise analytics platform integrating Big Data stack and Cloud compute capabilities, resulting in a remarkable 3x revenue growth over a 5-year period.

Currently serving as an Adjunct Associate Professor at both the Pratt School of Engineering, Duke University, Dr. Singh is dedicated to educating and mentoring future leaders in analytics and data science.

His expertise encompasses decision science technologies, covering both structured and unstructured data, as well as machine learning and artificial intelligence. Driven by a passion for innovation, he consistently delivers solutions that drive tangible business results.

Prior to his tenure at Envestnet | Yodlee, Pramod spent 15 years at Hewlett Packard, where he led the digital and big data analytics

practice and was first Distinguished Technologist of Advance Analytics. Analytics efforts led by him resulted in incremental revenue of more than $1B. He made significant contributions early in his career at Wal-Mart's Information Systems team, notably in the development of the Assortment Planning system which revolutionized assortment planning and still in use.

Recognized as a thought leader, Dr. Singh serves on advisory boards and has received numerous industry and academic awards. His insights have been published in prestigious periodicals and journals, and he is a sought-after speaker at global conferences. Dr. Singh holds a PhD and Master's degree in Mathematics from the University of Arkansas, supplemented by an MBA in Marketing from the University of Jammu.

APPOINTMENTS AND AFFILIATIONS

- Adjunct Associate Professor in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Email Address:** pramod.singh@duke.edu

EDUCATION

- Ph.D. University of Arkansas, Fayetteville, 2004
- M.S. University of Arkansas, Fayetteville, 1996
- M.B.A. University of Jammu (India), 1992

COURSES TAUGHT

- AIPI 549: Capstone Practicum 1

Natalia Summerville

Adjunct Associate Professor in the Engineering Graduate and Professional Programs

Dr. Natalia Summerville leads a team at SAS Institute, in Advanced Analytics R&D, that designs, develops, and implements Machine Learning and Optimization applications for a variety of industries including Retail, Health Care, Transportation, Manufacturing and Media Advertising. Natalia has been teaching undergrad and masters-level classes in Industrial Engineering, Operations Research and Data Analytics since 2005 and is currently a Lecturer at MIT, Duke University and NCSU. She is deeply passionate about Data4Good movement and has been collaborating with many non-profit and mission-driven organizations to implement data analytics for social good. Natalia is currently a board member within "Pro-Bono Analytics" and "Doing Good with Good OR" committees at INFORMS.

APPOINTMENTS AND AFFILIATIONS

- Adjunct Associate Professor in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Email Address:** summerville.natalia@duke.edu
- **Websites:**
  - LinkedIn Profile

EDUCATION

- D.R. North Carolina State University, 2012

COURSES TAUGHT

- AIPI 530: Optimization in Practice

REPRESENTATIVE PUBLICATIONS

- Reis Pinheiro, CA; Galati, M; Summerville, N; Lambrecht, M, *Using Network Analysis and Machine Learning to Identify Virus Spread Trends in COVID-19*, Big Data Research, vol 25 (2021) [10.1016/j.bdr.2021.100242] [abs].
- Summerville, N; Uzsoy, R; Gaytán, J, *A random keys genetic algorithm for a bicriterion project selection and scheduling problem*, International Journal of Planning and Scheduling, vol 2 no. 2 (2015), pp. 110-110 [10.1504/ijps.2015.072105] [abs].

Theodore Ryan

Executive in Residence in the Engineering Graduate and Professional Programs

Ted has more than 40 years of experience as management consultant and coach to top-tier organizations, focusing on executive coaching and development; leadership and management development; organizational effectiveness; evaluation processes; business ethics; aligning corporate culture to strategy, mission, vision and values; and selection process development.

Currently, Ted teaches the core Management and Leadership course to Master of Engineering Management/Master of Engineering students at the Pratt School of Engineering. For twelve years, he taught the business ethics course at Fuqua School of Business to daytime MBA students.

Ted’s clients have included Accenture, American Museum of Natural History, Bank of America, Central Park Conservancy, Clariant Corporation, Deutsche Back, The Federal Reserve bank of New York, FHI 360, GE, Chase Bank [predecessor of JP Morgan Chase], ImageQuix, Lenovo, Mastercard, McKim & Creed, Merrill Lynch, Morgan Stanley, The New York Times, PepsiCo and the U.S. State Department. Ted’s work with these clients took place in intern

Ted has created and delivered numerous leadership development programs for executives and managers at major global corporations and not-for-profits in the US, Europe, Asia and Latin America. At Morgan

Stanley, Ted was the lead consultant in creating and implementing Wall Street's first computer-driven 360 performance evaluation process. Also at Morgan Stanley, Ted created and conducted a series of offsite leadership programs, for all officers, globally, in the administrative, auditing, finance, human resources, legal, operations and systems areas. One of the core modules focused on how to create and lead effective cross-cultural teams.

Ted helped deliver Bank of America's executive leadership program to several hundred senior and high-level executives, and was the lead consultant in creating a world-class investment bank [Banc of America Securities] as a subsidiary of Bank of America.

Ted led the creation of the hiring processes for Accenture [for both its new-hire and mid-career consultant hiring], Chase Bank and Merrill Lynch. Ted's proprietary Select for Success™ hiring skills program has been delivered to scores of clients globally.

At McKim & Creed, a civil engineering firm, Ted helped lead a successful C-suite transition.

Ted's core professional interests center on helping individuals and organizations achieve high performance in ways that bring full personal development, team and organizational well-being and a positive impact on society. A current research and consulting interest is leveraging the dynamics that drive superior performance, high ethics and positive treatment of stakeholders, including employees and customers. Ted is also Chief Learning Officer for Choosing High Performance™, a consultancy for helping clients achieve high performance and well-being.

Ted recently wrote an element [a digital chapter] for Cambridge University Press's extensive new series, Reinventing Capitalism in the 21st century. The element is titled, "The Failure of Shareholder Value Theory and the Contours of a Humane Capitalism." It will be published soon. Ted has been asked to write another chapter for the series, which will provide a roadmap for Boards and CEOs who are striving to transform their organizations from a focus on shareholder value to that of being purpose-driven for the well-being of all stakeholders.

Ted has served on various boards, including the Episcopal Church Foundation, Hollow Rock Racquet and Swim Club, and the Rick Herrema Foundation, a non-profit near Fort Bragg in NC, serving military families. On these Boards, Ted served as Chair of the Governance and Strategy Committees. Ted has also worked with US Special Forces officers on ethical leadership and coaching.

Ted earned a B.A., High Honors, at Wheaton College (Ill.) in Philosophy and Anthropology; a Master of Divinity, at Princeton Theological Seminary, with a focus on Counseling and Developmental Psychology; a Ph.D. at Columbia University, in Clinical, Vocational and Organizational Psychology; and did Ph.D. studies at Princeton University, in Ethics, Personality, Society & Culture.

APPOINTMENTS AND AFFILIATIONS

- Executive in Residence in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Office Location:** 305 Teer Engineering, Box 90271, Durham, NC 27708
- **Office Phone:** +1 919 660 5386
- **Email Address:** theodore.ryan@duke.edu
- **Websites:**
  - Fuqua Faculty Profile

EDUCATION

- Ph.D. Columbia University, 1977

COURSES TAUGHT

- MENG 540: Management of High Tech Industries
- EGRMGMT 540: Management of High Tech Industries

Richard Dean Telford

Executive in Residence in the Engineering Graduate and Professional Programs

Ric is an Executive-in-Residence and Adjunct Associate Professor in the Pratt School of Engineering. He teaches both technology and business courses with an emphasis on entrepreneurship and helping students who share a passion for innovation. Ric also is the Director of the Center for Mobile Application Development, which assists students and faculty in developing iPhone and iPad apps. As a former IBM executive with 32 years experience, Ric tended to be at the forefront of emerging technologies with ability for understanding the value in new technologies from a business perspective.

APPOINTMENTS AND AFFILIATIONS

- Executive in Residence in the Engineering Graduate and Professional Programs

CONTACT INFORMATION

- **Office Location:** 101 Science Drive, Box 90271, Durham, NC 27708-0271
- **Office Phone:** +1 919 613 6989
- **Email Address:** ric.telford@duke.edu

EDUCATION

- B.S. Trinity University, 1983

COURSES TAUGHT

- MENG 570: Business Fundamentals for Engineers
- ECE 899: Special Readings in Electrical Engineering
- ECE 564: Mobile Application Development

Jeffrey D Ward

Associate Dean for Technology and Innovation in the Duke Law School

Jeff Ward is Clinical Professor of Law and currently teaches Contracts and technology-focused courses such as Frontier AI & Robotics: Law & Ethics and Data Governance. He is affiliated faculty at the Initiative for Science & Society and at Duke's Pratt School of Engineering where he teaches Legal, Legal, Societal & Ethical Implications of AI for Artificial Intelligence for Product Innovation Master of Engineering students and Intellectual Property, Business Law, and Entrepreneurship for Master of Engineering Management students.

Through his work at Duke and as a Faculty Associate at the Berkman Klein Center for Internet & Society at Harvard University, Ward focuses his scholarship and professional activities on the law and policy of emerging technologies, the future of lawyering, and the socio-economic effects of rapid technological change, with a focus on ensuring equitable access to the tools of economic growth and the resources of the law. In all his work on ethical technology development, he focuses on facilitating structures to allow diverse communities of stakeholders to have a voice in their socio-technical futures and on breaking down the habitual walls of law to seek inspiration and engagement from other viewpoints and disciplines.

As Director of the Duke Center on Law & Technology (DCLT), Ward collaborates with DCLT affiliates to ensure that new technologies

ultimately empower and ennoble all people and expand access to quality legal services. The DCLT offers programs such as:

- the Duke Law Tech Lab, a pre-accelerator program focused on justice tech companies— "those that create technology solutions to help people navigate legal matters with tech solutions that foster hope, independence, and self-empowerment and contribute to a fairer legal system" (definition by Justice Tech Association, 2022).
- **Duke Law By Design**, a program to help students and Duke's community partners to employ human-centered design methodologies and available technologies to create tools and processes to enhance access to legal services.
- The **Digital Governance Design Studio**, which builds legal and governance models, develops interactive trainings, and pursues research at the intersection of governance, technology, and advice, helping students become digital-savvy professionals, collaborators, and stewards.
- **Duke LawNext** – a range of programs focused on the digital transformation and ongoing innovation of legal operations and legal services delivery.

Prior to serving as director of the DCLT, Ward was director of the Start-Up Ventures Clinic, supervising attorney in the Law School's Community Enterprise Clinic, and an associate with the Chicago office of Latham & Watkins, where he focused on M&A and capital markets transactions and served as a Public Interest Law Initiative Fellow with the at the Community Economic Development Law Project of the Chicago Lawyers' Committee for Civil Rights Under Law, Inc.

Ward earned both his JD and his LLM in International & Comparative Law from Duke Law School, his MA in Literature from Northern Illinois University, and his BA in the Program of Liberal Studies (Great Books) and a concentration in Philosophy, Politics, & Economics from the University of Notre Dame. Before turning to the law, Ward worked first as a business consultant with a global management-consulting firm in Chicago and then as an English teacher in the Chicago suburbs.

Ward was the recipient of Duke Law's 2022 Distinguished Teaching Award.

APPOINTMENTS AND AFFILIATIONS

- Clinical Professor of Law
- Associate of the Duke Initiative for Science & Society

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EDUCATION

- J.D. Duke University, 2009

COURSES TAUGHT

- LAW 640: Independent Research
- LAW 592: Frontier AI & Robotics: Law and Ethics
- LAW 571: Future of Contracts
- LAW 475A: Health Data and Learning Health Networks
- LAW 130: Contracts
- EGRMGMT 520: Intellectual Property, Business Law, and Entrepreneurship
- BIOETHIC 703: Frontier AI & Robotics: Law and Ethics
- BIOETHIC 700: Research Independent Study in Bioethics and Science Policy
- BIOETHIC 675S: Law and Policy Lab: Data Governance
- BIOETHIC 591: Topics in Science Policy
- AIPI 560: Legal, Societal, and Ethical Implications of AI

IN THE NEWS

- Is It Time to Regulate Social Media? Knight Foundation to Fund Duke Study (Nov 5, 2019 | Sanford School of Public Policy)
- Innovation Incubator: Duke Law Stakes Out Leadership Role in Law and Technology (Jul 20, 2017 | Duke Law Magazine)
- Duke law faculty offer 4 steps toward fixing college athletics (Apr 14, 2014 | The News & Observer)

REPRESENTATIVE PUBLICATIONS

- Ward, J, *Foreword: Black Box Artificial Intelligence and the Rule of Law*, Law and Contemporary Problems, vol 84 no. 3 (2021), pp. i-v [abs].
- Ward, J; Kouser, T, *Health-Related Digital Autonomy: An Important, But Unfinished Step*, American Journal of Bioethics, vol 21 no. 7 (2021), pp. 31-33 [abs].
- Ward, J; Reyes, C, *Digging into Algorithms: Legal Ethics and Legal Access*, Nevada Law Journal, vol 21 no. 1 (2020), pp. 325-377 [abs].
- Ward, J, *When and How Should We Invite Artificial Intelligence Tools to Assist With the Administration of Law? A Note From America*, Australian Law Journal, vol 93 no. 3 (2019) [abs].
- Ward, J, *10 Things Judges Should Know About AI*, Judicature, vol 103 no. 1 (2019), pp. 12-18 [abs].