PADHRAIC SMYTH

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Professional Positions

April 1996–present: Professor, Department of Computer Science, University of California, Irvine

- Chancellor's Professor: 2018 to present
- Full Professor: July 2003 to 2018
- Associate Professor: July 1998 to June 2003
- Assistant Professor: April 1996 to June 1998

October 1988–March 1996: Member of Technical Staff and Technical Group Leader (from 1992), Jet Propulsion Laboratory, California Institute of Technology, Pasadena.

Education

PhD, 1988: California Institute of Technology, Department of Electrical Engineering.

MSEE, 1985: California Institute of Technology, Department of Electrical Engineering.

BE, 1984: National University of Ireland, University College Galway. Bachelor of Engineering (Electronic) with First-Class Honors.

Additional Professional Roles and Affiliations

Joint Faculty Appointments:

- Department of Statistics, UC Irvine, July 2008–present.
- Department of Education, UC Irvine, July 2017–present.

Founding Director, UCI Data Science Initiative, University of California, Irvine, July 2014–June 2018.

Founding Director, Center for Machine Learning and Intelligent Systems, University of California, Irvine, January 2007–June 2014.

Faculty Member, Institute for Genomics and Bioinformatics (IGB), UC Irvine, Member 2001–present.

Faculty Member, Institute for Mathematical Behavioral Sciences (IMBS), UC Irvine, 1999-present.

Faculty Member, Center for Digital Transformation, UC Irvine, 2012–present.

Faculty Member, Program for Mathematical, Computational, and Systems Biology (MCB), UC Irvine, 2007–present.

Faculty Member, Center for Research on Information Technology and Organizations (CRITO), UC Irvine, 2008–2012.

Visiting Principal Researcher, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, 1996–2001.

Member of IEEE (1988–present), American Statistical Association (1997–present), and the Association for Computing Machinery (ACM) (1999–present).

Honors and Awards

Fellow, American Association for the Advancement of Science (AAAS), elected 2022

Fellow, Association for Computing Machinery (ACM), elected 2013

Fellow, Association for the Advancement of Artificial Intelligence (AAAI), elected 2010

ACM SIGKDD Innovation Award, 2009

Best paper awards: ACM SIGKDD Conference (best paper(1997, 2002), runner-up best paper (1998, 2000)), ACM/IEEE Joint Conference on Digital Libraries (JCDL) (shortlist for best paper, 2007), Educational Data Mining Conference (best paper, 2018)

Qualcomm Faculty Award, 2019

Google Faculty Research Awards, 2008 and 2014

IBM Faculty Partnership Award, 2001.

National Science Foundation CAREER award, 1997

ACM Teaching Award, UC Irvine, 1997

NASA Group Achievement award, Jet Propulsion Labaratory, 1997

Lew Allen Award for Excellence in Research, Jet Propulsion Laboratory, 1993

17 NASA Certificates for Technical Innovation (1991–1996)

Advisory and Consulting Activities

AdvanceOC Advisory Board (2020-present); Candor Technologies (2021-present); Wilson, Sonsoni, Goodrich and Rosati (2019-present); Fox Rothschold LLP (2021); Fish and Richardson (2021; Fenwick and West LLP (2019-2021); QuinnEmanuel LLP (2019-2020); Morgan Lewis and Bockius LLP (2019); Erise IP (2017-2018; Toshiba (2018-2019), First American (2018-2019); ProLung, Inc (2017-2019); Unified Patents (2016-2019); University of Washington (2016-2019); Klarquist LLP (2015-2016); Frost Data Capital (2014-2015); AST Inc (2013-2015); Samsung (2012-2015); SOCCCD (2012-present); DigitalRisk (2010-2012); CoreLogic (2011-2014); IdentityMetrics (2010-2012); Microsoft (2010-2011); ImageCat (2010); eBay (2009-2011); Data-Analytics LLC (2009-2011); QuinnEmanuel LLP (2011); Latham and Watkins (2008-2009, 2011); Netflix (2006-2009); Topicseek LLC (2005-2008); Yahoo! (2005-2008); Strativa (2005); IET (2004-2005); JWDi-rect (2001-2004); Credit Sciences (2000-2004); Nokia Research (2000); First Quadrant Financial Services (1998-1999); Smith-Kline Beecham (1998); AT&T (1996-1998).

Postdoctoral Advisees and Current Positions

Tracy Holsclaw, 2011-2014; Consultant, San Jose, CA.
Ralf Krestel, 2011-2013; Senior Researcher, Hasso-Plattner Institute, Potsdam, Germany.
Romain Thibaux, 2008-2009; Google, Mountain View, CA.
Alex Ihler, 2005-2006; Professor, Department of Computer Science, UC Irvine.
Michael Duff, 2005-2006; Researcher, Fred Hutchinson Cancer Research Center, Seattle, WA.

PhD Students

PhD Advisees and Current Positions

Robert Logan IV (co-advised with Sameer Singh), PhD 2022; Dataminr, New York
Disi Ji, PhD 2020; Instagram, Menlo Park, CA
Chris Galbraith, PhD 2020; Mandiant, Philadelphia, PA
Jihyun Park, PhD 2019; Apple, Cupertino, CA
Dimitris Kotzias, PhD 2018; Google, Zurich
Eric Nalisnick, PhD 2018; Assistant Professor, University of Amsterdam
Moshe Lichman, PhD 2017; Google, Irvine, CA
Nick Navaroli, PhD 2014; Google, Irvine, CA
Jimmy Foulds, PhD 2014: Assistant Professor, Department of Computer Science, UMBC
Chris DuBois, PhD 2013: Apple, Seattle
America Chambers, PhD 2013: Assistant Professor, Department of Mathematics and Computer Science, University of Puget Sound
Drew Frank (co-advised with Alex Ihler), PhD 2013: Apple, Seattle
Arthur Asuncion, PhD 2011: Google, Seattle, WA
Jon Hutchins (co-advised with Alex Ihler), PhD 2010: Google, Pittsburgh, PA
Chaitanya Chemudugunta, PhD 2009: Director, Data Science/Research, Pandora, CA
Seyoung Kim, PhD 2007: Associate Professor, Department of Bioinformatics, CMU, Pittsburgh
Darya Chudova, PhD 2007: VP of Bioinformatics, Guardant Health, Redwood City, CA
Sergey Kirshner, PhD 2005: Amazon, Palo Alto, CA
Scott Gaffney, PhD 2004: VP of Search Engineering, eBay, San Jose, CA
Xianping Ge, PhD 2002
Igor V. Cadez, PhD 2002
Dimitry Pavlov, Consultant, PhD 2001

Current PhD Students

Advanced to Candidacy: Preston Putzel, Casey Graff, Alex Boyd (co-advised with Stephan Mandt), Gavin Kerrigan
Pre-Candidacy: Rachel Longjohn, Sam Showalter, Markelle Kelly, Edgar Robles, Catarina Belem, Yuxin Chang.

Professional Activities

Journals: Associate/Action Editor

ACM Transactions on Knowledge Discovery and Data, guest editor of special issue on best papers from *ACM SIGKDD 2011 Conference*, TKDD 6(4), 2012.

Journal of the American Statistical Association, 2002 to 2005.

IEEE Transactions on Knowledge and Data Engineering, 2002 to 2004.

Machine Learning Journal, July 1998 to December 2001.

Machine Learning Journal, guest editor of special issue on probabilistic learning, 1997.

Journals, Book Series, Centers: Advisory/Editorial Board Member

Journal of Machine Learning Research, 2000-2020.

Chapman and Hall: Series in Computer Science and Data Analysis, 2002-2008.

Bayesian Analysis, 2004-2007.

Insight Center for Data Analytics, University College Dublin, Scientific Advisory Member, 2015-2020.

Conference Program and General Chair Positions

Associate Program Chair, International Joint Conference on Artificial Intelligence (IJCAI), 2022

Program Chair for the Uncertainty in Artificial Intelligence (UAI) Conference, 2013.

Program Chair for 17th ACM SIGKDD Conference, San Diego, 2011.

Program Chair for the Symposium on the Interface between Statistics and Computing, Costa Mesa, CA, June 2001.

General Chair for the Sixth International Conference on Artificial Intelligence and Statistics, January 1997.

Other Conference and Workshop Organization Roles

Conference Organization Roles: Senior Area Chair/Area Chair, NeurIPS 2017, 2018, 2019, 2020,2021; Senior Area Chair/Area Chair, ICML 2018, 2019, 2020, 2021,2022; Senior Area Chair, AAAI 2020; Panels Chair for ACM SIGKDD Fifth International Conference on Knowledge Discovery and Data Mining, 1999; Tutorials co-Chair for National Conference on Artificial Intelligence, 1998; Tutorials Chair for the ACM SIGKDD Conferences on Knowledge Discovery and Data Mining, 1997 and 1998; Publicity Chair for the ACM SIGKDD Conferences on Knowledge Discovery and Data Mining, 1995 and 1996.

Workshop Co-Chair/Organizer for: Dagstuhl Seminar, Automating Data Science, 2018; Workshop on Algorithmic and Statistical Approaches for Large Social Network Data Sets, NIPS Conference, Lake Tahoe, 2012; Workshop on User-Centered Modeling, Institute for Mathematics and its Applications (IMA), University of Minnesota, 2012.; Workshop on Scientific Data Mining, Institute for Pure and Applied Mathematics (IPAM), UCLA, 2002; Workshop on Temporal and Spatial Machine Learning, International Conference on Machine Learning (ICML), 2001; Massive Datasets workshop at the 1998 Neural Information Processing Conference (NIPS).

Research and Training Grants, Contracts and Gifts

78. *Fair Risk Predictions for Underrepresented Populations using Electronic Health Records*, NIH R01AG065330-02S1, Sept 1 2021 to April 30 2022, $167,792, co-investigator, (PI: Judy Zhong, Biostatistics, NYU).

77. *Data Science Training and Practices: Preparing a Diverse Workforce via Academic and Industrial Partnership*, NSF IIS-2123366, Sept 1 2021 to Aug 31 2024, $751,921, Co-principal investigator (PI: Babak Shababa, Statistics, UCI).

76. *Personalized Risk Predictions with Deep Learning Methods in the Presence of Missing and Biased Electronic Health Record Data*, NIH R01-LM013344, Aug 6 2021 to May 31 2025, $498,957 (UCI portion), Principal Investigator (MPI with Judy Zhong, Biostatistics, NYU).

75. *Improving Prediction of Fire Extremes in the GEOS Forecasting System on Daily and Seasonal Timescales*, NASA, Sept 1 2021 to June 30 2025, $1,040,166, Co-principal investigator (PI: Jim Randerson, Earth System Sciences, UCI).

74. *Addressing the Critical Role of Innate/Adaptive Immunity by Integrating Novel Informatics, Transla-*

73. *Analyzing Information Exchange in Human-Human Dialog using Machine Learning*, SAP Innovation Center, $124,000, April 1 2020 to March 31 2021, Principal Investigator.

72. *Generative Expectation-based Response and Novelty Identification*, DARPA/SRI-HR001120C0021, $1,596,858, Oct 1 2019 to March 31 2023, Co-investigator (PI: Stephan Mandt, Computer Science, UCI).

71. *Machine Learning Democratization via a Linked, Annotated, Repository of Datasets*, National Science Foundation (CCRI: ENS), award number NSF-1925741, $1,792,952, Oct 1 2019 to Sept 30 2022. Co-principal investigator (PI: Sameer Singh, Computer Science, UCI).

70. *Hybrid Human Algorithm Predictions: Balancing Effort, Accuracy, and Perceived Autonomy*, National Science Foundation (EAGER: AI-DCL), award number NSF-1927245, $293,923, Aug 15 2019 to Aug 14 2021. Co-principal investigator (PI: Mark Steyvers, Cognitive Sciences, UCI).

69. *Assessment of Machine Learning Algorithms in the Wild*, National Science Foundation, award number NSF-1900644, $1,199,898, Oct 1 2019 to Sept 30 2023, Principal Investigator.

68. *Qualcomm Faculty Award*, $225,000 (gift), May 2019/March 2022, Principal Investigator.

67. *Innovation Center for Advancing Ecosystem Climate Solutions*, California Strategic Growth Council, award number CCR20021, $4,604,140, 4/01/2019 to 3/31/2022, co-investigator (PI: Mike Goulden, Earth Systems Sciences, UCI).

66. *Hands-free Documentation in Clinical Practice*, SAP, $172,000 (gift/sponsored project), October 2018, co-Principal Investigator (with Kai Zheng, Department of Informatics, UCI).

65. *TRIPODS-X: Data Science Frontiers in Climate Science*, National Science Foundation, award number NSF-1839336, $300,000, Oct 1 2018 to Sept 30 2021, co-PI (PI: Efi Foufoula-Georgiou, Civil and Environmental Engineering, UCI).

64. *Large-Scale Classification Algorithms*, eBay Labs, $30,000 (gift), Dec 1 2017, Principal Investigator.

63. *Center for Machine Learning and Intelligent Systems*, Cylance, $50,000 (gift), Dec 1 2017, Principal Investigator.

62. *Development of Computational Methods for Evaluating Patient-Doctor Communication*, PCORI, $270,000 (UCI portion), award number ME-1602-34167, July 1 2017 to June 30th 2019, co-Investigator (PI: Zac Imel, U Utah).

61. *NRT-DESE: Team Science for Integrative Graduate Training in Data Science and Physical Science*, NSF, award number NSF-1633631, Sep 15 2016 to Aug 31 2021, $2,967,150, Principal Investigator.

60. *Learning Individual Predictive Choice Models*, Adobe Research Award, $50,000, October 2016, Principal Investigator.

59. *Transformative Computational Infrastructures for Cell-Based Biomarker Diagnostics*, NIH, award number U01TR001801-01, 09/01/16 08/31/21, $766,000 (UCI portion), co-Investigator (PI: Richard Scheuermann, Venter Institute/UCSD).

58. *The Big DIPA: Data Image Processing and Analysis*, NIH BD2K Program, award number 1R25EB022366-01, $486,000, Sept 30 2015 to June 30th 2018, co-Investigator (UCI PI: Charless Fowlkes).

57. *Investigating Virtual Learning Environments*, National Science Foundation, award number NSF-1535300, $2,500,000, Oct 1 2015 to Sept 30th 2020, co-Investigator (UCI PI: Mark Warschauer).

56. *Forensic Science Center of Excellence*, National Institute of Standards and Technology (NIST), award

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