VIC V. ANAND, BS, MS, MBA, PHD

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Data Science Consultant | Professor of Accounting
Providing Strategic Insight using AI and Machine Learning Analytics

PROFESSIONAL SUMMARY

A data science consultant with proven ability to thrive in private enterprise for product development, supply chain analytics, and marketing. Leverages best-in-class AI / machine learning / RPA (Robotic Process Automation) to direct and manage data-driven analytics to interpret, analyze, and resolve complex business challenges. Possesses clarity of communication, ability to speak with C-suite executives, data scientists, information technology leaders, software architects, and software developers in their own parlance / language for improved dialogue in explaining the complexity and intended outcome of the business case. Successful prescriptive analytics with proven ability to frame situations through multiple lenses, including the positive impact and justification for success.

NOTABLE CAREER ACHIEVEMENTS

- **Predictive Analytics:** Research project to predict increases/decreases in the P&L; achieved 60% predictive accuracy for up or down of P&L for all NYSE, NASDAQ, and AMEX companies. Currently working on a follow-up project to predict the profit levels of these companies and subsequent stock market reactions.
- **Publication:** Coauthored a paper titled "*Using Python for Text Analysis in Accounting Research*" which is forthcoming in the prestigious journal *Foundations and Trends in Accounting*. The paper reviews state-of-the-art methods for extracting accounting information from unstructured text, like the MD&A section of a 10-K filing.
- **Strategy Development for a Joint Venture –** Worked with senior management to develop a competitive strategy. Identified competitive threats and actions necessary to mitigate those threats. Developed a financing proposal for venture capitalists, as was an implementation and operating plan for the company's first potential customer. (Deloitte)
- **Product Development Financial Analysis** – Worked on the launch of the Ford Explorer program. Wrote a prototype computer program to simulate web-based ordering for Ford dealers. (Ford Motor Company)
- **Financial Management for the U.S. National Imagery & Mapping Agency** (NIMA) – Analyzed the possibility of adopting Federal Accounting Standards Advisory Board (FASAB) rules on internal-use software for imagery; benchmarked relevant government and commercial accounting practices; recommended options for valuation of imagery inventory. The analysis was later accepted by NIMA.

PROFESSIONAL EXPERIENCE

Gies College of Business – University of Illinois at Urbana – Champaign 2017 – Present
Assistant Professor of Accountancy and Arthur Andersen Data Analytics Fellow

Contribute to the ongoing development and delivery of data analytics in postgraduate programs. Committed to the success and development of a major University Business School, and have a sustained international research/scholarly profile and trajectory, with an interest in interdisciplinary research. Nurtured academic colleagues and students to reach their potential.

- Successfully developed and taught ACCY 575, a case-based course in which students apply Python and other data analytics skills to business cases (e.g., airline fixed / variable cost using regression analysis to identify overhead to eliminate airline route or not; internal audit of transaction data).
- Successfully developed and taught ACCY 570, an analytics course for accounting and finance students in which students learn Python, Pandas, visualization, statistics, and robotic process automation (RPA). The course is developed around accounting and finance decisions and data.

Emory University – Goizueta Business School 2012 – 2017
Assistant Professor of Accounting

- Stewarded growth of cutting-edge MBA Accounting portfolio & established distinctive, data-driven research programs.

- Disseminated research findings through publication in peer-reviewed journals and at American Accounting Association (AAA) conferences.
- Contributed to curriculum review and enhancement, in a manner that supports a research-led approach to student learning.

Cornell University – S.C. Johnson Graduate School of Management 2004 – 2012
Doctoral Candidate

- Awarded Ph.D. in accounting
- Minors in behavioral economics and labor economics; completed requirements for minor in computer science.

Senior Business Analyst | Science Applications International Corporation (SAIC) 2001 – 2003

A $6 billion professional services firm providing outsourcing and IT services to government and commercial clients.

- ***Held Department of Defense (DoD) security clearance.*** Eligible for federal security clearance.
- ***Business Case Development for the United States Marine Corps*** – Led a team that developed a business case analysis for the Marine Corps audiovisual equipment program. Conducted research on both applicable federal regulations and pertinent technology trends. Developed a relational database to capture this information. Analyzed cost drivers and operational requirements, formulated an acquisition strategy for audiovisual equipment, and developed program management metrics.
- ***Business Case Development for the Federal Emergency Management Agency (FEMA)*** – Led a team that developed multiple business cases (OMB Exhibit 300), for FEMA's e-Government initiative, Disasterhelp.Gov. Developed the business case which quantified benefits to citizens in terms of time savings from streamlined government procedures, and reduced economic losses from lost workdays. Also quantified expected savings to the government from reduced data collection and processing.

Senior Consultant | Deloitte Consulting, LLC 2000 – 2001

A $3.5 billion management consultancy, and part of accounting firm Deloitte & Touche.

- ***Benefits Tracking at a Major Food Company*** – Worked with senior financial management to standardize benefit tracking and reporting across the client's operating companies. Developed an Access database for data storage and automatic report generation. Tied reported benefits to a P&L statement. As a result, the client realized an additional $60 million in benefits.
- ***Supply Chain Optimization*** – Improved information flow between a major Japanese auto manufacturer and its consumers, dealers, and suppliers using internet technology. Resulted in $100 million in inventory cost savings and reduced order-to-delivery times. Built a prototype website to allow consumers to custom-order vehicles, and piloted the web site within Deloitte.
- ***Strategy Development & competitive threat mitigation for a Joint Venture*** - Developed funding proposal for venture capitalists in conjunction with senior management and S&OP leadership. Operationalized strategy and implemented operating plan for the first prospective customer engagement. Developed and set competitive strategy. Identified competitive threats and mitigated (or leveraged) them.

Ford Motor Company | **Dearborn, MI** 1995 – 1998

Financial Analyst, Product Development Finance 1997 – 1998

- Analyzed emerging markets in the Middle East and Africa for the launch of the 1997 Ford Explorer program and performed profitability analyses – based on these, Ford delayed entry into those markets.
- Prepared a final status paper for the Right-Hand-Drive Explorer program after obtaining data from Purchasing, Manufacturing, and Marketing – the resulting analysis was presented to the Company's board of directors.
- Performed competitive analysis of the option packages on the 1997 Jeep Grand Cherokee – Ford adopted the resulting recommendations to simplify Explorer 1999 option packages.
- Wrote a prototype computer program to simulate a web-based ordering guide for Ford dealers – a version of this idea which was adopted by them in 2000.

Manufacturing Engineer, Automatic Transmission Operations 1995 – 1997

- Successfully reduced noise levels of the 4x4 system of the Ford Expedition by testing different clutch configurations and recommended the optimal configuration. The change incorporated into the 1997 Expedition.
- Performed make/buy analyses in Business Planning for components of a new transmission. Analyzed existing transmission plant capacity projections to determine the optimal sourcing locations for new components. The new transmission went into production in the 1999 model year with suggested recommendations incorporated.

EDUCATION

- **Ph.D. in Accounting** | Cornell University | 2014
  Dissertation: *"Essays on the Motivating Effects of Goals in Accounting"* | https://ecommons.cornell.edu/handle/1813/36189
- **Master of Science in Accounting** | Cornell University | 2013
- **Master of Science in Industrial Administration (MBA)** | Carnegie Mellon University – Graduate School of Industrial Administration | May 2000
- **Bachelor of Science in Mechanical Engineering** | Massachusetts Institute of Technology | June 1995

TECHNICAL SKILLS

- **Machine learning and artificial intelligence:** classification trees, regression trees, random forests, genetic algorithms, and neural networks.
- **Cloud Computing:** Used Microsoft Azure for cloud computing, machine learning, big data storage and retrieval, database hosting, and website design and hosting. Used Azure Machine Learning Studio for conducting machine learning experiments.
- **Proficient in Python**, C# and .NET framework, C, Visual Basic for Applications (VBA), Microsoft Visual Studio. Familiar with R, PHP, JavaScript, F#, Windows PowerShell, UNIX/LINUX.
- **Scripting:** Python (*Key Libraries:* Pandas, NumPy, Matplotlib, Seaborn, Bokeh, scikit-learn and *Development Tools:* Jupyter Notebook, Jupyter Lab, Visual Studio Code), Windows Powershell.
- **Statistical/Mathematical Packages:** Stata, SAS, Mathematica, MATLAB.
- **Database Design** – Microsoft SQL Server Management Studio & Microsoft Access. Analyze data from inventory management systems (IMS) & from warehouse management systems (WMS).
- **Microsoft Office:** Word, Excel, PowerPoint, and Access.

ADDENDUM

RESEARCH INTERESTS

- Forecasting financial and accounting numbers, machine learning, cost accounting and cost systems, capacity planning, target setting

JOURNAL PUBLICATIONS

- **Anand, V.**, Balakrishnan, R., and N. Gavirneni. Capacity Planning with Limited Information. Forthcoming in *Production and Operations Management*.
- **Anand, V.**, Webb, A., and C. Wong. Mitigating the Demotivating Effects of Frequent Unfavorable Feedback about Goal Progress. Forthcoming in *Journal of Management Accounting Research*.
- **Anand, V.**, Bochkay, K., Chychyla, R., and A. Leone (2020). Using Python for Text Analysis in Accounting Research. *Foundations and Trends in Accounting* 14 (3-4): 128-359. http://dx.doi.org/10.1561/1400000062
- **Anand, V.**, Balakrishnan, R., and E. Labro (2017). Obtaining Informationally Consistent Decisions When Computing Costs with Limited Information. *Production and Operations Management* 26(2): 211 – 230. https://doi.org/10.1111/poms.12631
- **Anand, V.**, Balakrishnan, R., and E. Labro (2019). A Framework for Conducting Numerical Experiments on Cost Systems. *Journal of Management Accounting Research* 31(1): 41 – 61. https://doi.org/10.2308/jmar-52057
- Valero-Cuevas, F.J., **Anand, V.V.**, Saxena, A., and Lipson, H. (2007). Beyond Parameter Estimation: Extending Biomechanical Modeling by the Explicit Exploration of Model Topology. *IEEE Transactions on Biomedical Engineering* 54 (11): 1951 – 1964. https://doi.org/10.1109/TBME.2007.906494

CONFERENCE PUBLICATIONS

- **Anand, V.**, Lipson, H., and Valero-Cuevas, F., Blind Inference of Nonlinear Cable Network Topology from Sparse Data. *Proceedings of the 2005 Genetic & Evolutionary Computation Conference*, Jun 2005, Washington, DC. Late-breaking paper.
- Valero-Cuevas, F.J., Lipson, H., Santos, V.J., and **Anand, V**. Shifting to Population-Based Models and Inferring Model Structure from Data are Two Directions That Will Enhance the Clinical Usefulness of Modeling. *Proceedings of the ISB XXth Congress and ASB 29th Annual Meeting*, Aug 2005, Cleveland, OH, USA.
- Spears, W.M. and **Anand, V**. A Study of Crossover Operators in Genetic Programming. *Sixth International Symposium of Methodologies for Intelligent Systems*, 1991.

WORKING PAPERS

- "Predicting Profitability Using Machine Learning," with Theo Sougiannis (UIUC), Robert Brunner (UIUC), and Kelechi Ikegwu (UIUC). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3466478
- "Target Horizons, Uncertainty, and Effort Provision." Based on my dissertation at Cornell University. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2896912
- "Exploring the Consequences of Frequent Feedback about Goal Progress," with Alan Webb (University of Waterloo) and Chris Wong (Wilfrid Laurier University). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3226304
- "Updating Cost systems," with Ramji Balakrishnan (University of Iowa) and Eva Labro (the University of North Carolina at Chapel Hill).

INVITED PRESENTATIONS

- **2020 –** University of California, Davis
- **2019 –** AAA Management Accounting Section Research and Case Conference, doctoral colloquium
- **2018 –** University of Alberta Accounting Research Conference; AAA Intensive Data and Analytics Summer Workshop.
- **2016 –** University of Pittsburgh, Michigan State University, and University of Illinois at Urbana-Champaign
- **2014 –** Michigan State University
- **2012 –** Georgia Institute of Technology, Emory University, Indiana University, The University of Iowa, and University of Alberta

CASE WRITING

- An Introduction to Databases for Accountants (2019) | https://github.com/uidfcba/vanand1

RESEARCH FUNDING

- Ad hoc research funding, Goizueta Business School, Emory University for *Mitigating the Potentially Demotivating Effects of Frequent Feedback about Goal Progress* co-authored with Alan Webb and Chris Wong (University of Waterloo).
- Ad hoc research funding, Goizueta Business School, Emory University for *Performance Standard Horizons, Uncertainty, and Effort Provision*.

- Ad hoc research funding, Goizueta Business School, Emory University for *The Dark Side of Feedback: How frequent feedback about goal progress can reduce motivation in the presence of uncertainty.*
- Awarded Institute of Management Accountants (IMA, US, Foundation for Applied Research) funding for Robust Cost Systems, co-authored with Ramji Balakrishnan (University of Iowa) and Eva Labro (University of North Carolina Chapel Hill) (2011-2012).

PROFESSIONAL SERVICE

- **AAA Managerial Accounting Section**, Data Analytics Task Force (2018 – present)
- **Lecturer** in LEADership, Education, and Development program at Goizueta Business School, 2015, 2016, 2017.
- **Best paper award committee** for AAA Managerial Accounting Section Midyear Meeting 2015
- **Ad hoc reviewer for** Accounting Horizons 2018, 2019, 2021 | Accounting, Organizations, and Society 2016, 2017, 2018, 2019, 2021 (x2), 2022 | Contemporary Accounting Research 2018 (x2), 2020, 2022 (x2) | Journal of Financial Reporting 2017 | Journal of Management Accounting Research 2012, 2013, 2015, 2018, 2019, 2020, 2021, 2022 | Management Science 2019, 2021 (x2), 2022 | Production and Operations Management 2016 | Review of Accounting Studies 2020 | The Accounting Review 2015 | The International Journal of Accounting 2017, 2020
- **Discussant and reviewer** at AAA Managerial Accounting Section Midyear Meeting 2012, 2013, 2015, 2017, 2018, 2019
- **Discussant** for AAA annual meeting 2012, 2014
- **Dissertation committee** of Robert Mocadlo (Emory University)

ACADEMIC HONORS, AWARDS, & ACTIVITIES

- American Accounting Association **Innovation in Accounting Education Award** (with J. Herbold, J. Hobson, and K. Mendoza) | 2021
- **Department Head's Award** for Excellence in Accountancy Education | 2018 – 2019
- University of Illinois at Urbana-Champaign: *List of teachers ranked as excellent by their students* | Spring 2018 & 2019, Fall 2019, 2021, 2022.
- **Cornell University Graduate Fellowship** | 2004 – 2010
- **Graduated with University Honors |** Carnegie Mellon University
- **Member |** Beta Gamma Sigma
- **Vera Heinz Merit Scholarship |** Carnegie Mellon University |1998 – 2000
- **National Security Agency, Undergraduate Training Program**, full tuition and stipend for undergraduate education | 1990 – 1993

PERSONAL INTERESTS

Motorcycle racing, running, computer programming, mountain biking