## VIC V. ANAND, BS, MS, MBA, PhD

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## Researcher | Data Science Consultant | Professor of Accounting

#### **PROFESSIONAL SUMMARY**

A researcher and professor with proven ability to implement and apply data analytics in real-world settings. Possesses a PhD in accounting with expertise in data analytics (including AI, machine learning, and RPA), operations management, cost accounting, and behavioral economics. Also possesses an MBA and management consulting experience, and a BS in mechanical engineering and engineering experience. 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.

## **NOTABLE CAREER ACHIEVEMENTS**

- **Consulting (pro bono):** Helped a local business increase its revenues by 55% in one year by creating a strategy for increasing customer revenues and by improving inventory management.
- **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" 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 Assistant Professor of Accountancy and Deloitte Foundation Center for Business Analytics Scholar 2017 - Present

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 an online course to Caterpillar Finance employees. The course covered Python programming, machine learning, text analysis, and SQL.
- 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.
- Won the prestigious Innovation in Accounting Education Award from the American Accounting Association in 2021 for development of these courses (with colleagues J. Herbold, J. Hobson, and K. Mendoza)

# Emory University – Goizueta Business School Assistant Professor of Accounting

2012 - 2017

- 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 Doctoral Candidate

2004 - 2012

- 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

- 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. Concentrations: finance, operations management.
- Bachelor of Science in Mechanical Engineering | Massachusetts Institute of Technology | June 1995

#### **TECHNICAL SKILLS**

- **Econometrics and statistics:** Proficient in commonly used econometric techniques such as OLS regression, panel data methods, ANOVA, clustering standard errors, etc.
- 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.
- **Programming languages:** Python, C# and .NET framework, C, SQL, 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.
- Certifications:
  - DataCamp Associate Data Analyst (SQL, data management, statistics, EDA, visualization)

## **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 S. Gavirneni. Capacity Planning with Limited Information. *Production and Operations Management* 32 (9): 2740–2757. <a href="https://doi.org/10.1111/poms.14004">https://doi.org/10.1111/poms.14004</a>
- **Anand, V.**, Webb, A., and C. Wong. Mitigating the Demotivating Effects of Frequent Unfavorable Feedback about Goal Progress. *Journal of Management Accounting Research* 35 (2): 5 32. <a href="https://doi.org/10.2308/JMAR-2021-044">https://doi.org/10.2308/JMAR-2021-044</a>
- 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. <a href="https://doi.org/10.2308/jmar-52057">https://doi.org/10.2308/jmar-52057</a>
- 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. <a href="https://doi.org/10.1109/TBME.2007.906494">https://doi.org/10.1109/TBME.2007.906494</a>

### **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**

- "Opportunity Cost of Capacity Resources Under Hard Capacity Constraints," with Ramji Balakrishnan (University of Iowa) and Shiva Sivaramakrishnan (Rice University).
- "Target Horizons, Uncertainty, and Effort Provision." Based on my dissertation at Cornell University. https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2896912
- "Predicting Profitability Using Machine Learning," with Theo Sougiannis (UIUC), Robert Brunner (UIUC), and Kelechi Ikegwu (UIUC). <a href="https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3466478">https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3466478</a>
- "Life Cycle Models versus Random Walk in Forecasting Growth and Profitability", with Theo Sougiannis (UIUC) and Egor Nikulin (Saint Petersburg State University)
- "Fundamental Analysis Using Machine Learning", with Theo Sougiannis (UIUC) and Anurag Anand (UIUC)

## **ТЕХТВООКЅ**

"Data Analytics for Accountants", with Kim Mendoza (UIUC). Available at <a href="https://vanand74.github.io/Data-Analytics-Textbook/">https://vanand74.github.io/Data-Analytics-Textbook/</a>

#### **INVITED PRESENTATIONS**

- 2022 Emerging Management Accounting Scholars Symposium III, University of Illinois at Urbana-Champaign
- 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**

- Rodrigo-Swift Essentials, Inc. (2024). A process capability analysis and dashboarding case. Co-authored with Gopesh Anand.
- Baird Connect Services (2024). A regression and ANOVA case, Co-authored with Gopesh Anand.

- Customer Revenue Analysis (2023). Under review, available upon request.
- Merging Data in Pandas (2023). Under review, available upon request.
- An Introduction to Databases for Accountants (2019) |
   <a href="https://www.centerforanalytics.giesbusiness.illinois.edu/content/case-studies/database-for-accountants">https://www.centerforanalytics.giesbusiness.illinois.edu/content/case-studies/database-for-accountants</a>

#### 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 (x2), 2021 (x2), 2022, 2024 | Contemporary Accounting Research 2018 (x2), 2020, 2022 (x2), 2023, 2024 | Journal of Financial Reporting 2017 | Journal of Management Accounting Research 2012, 2013, 2015, 2018, 2019, 2020, 2021, 2022 | Management Science 2019, 2021 (x2), 2022, 2023, 2024 | Production and Operations Management 2016, 2023, 2024 | Review of Accounting Studies 2020 | The Accounting Review 2015 (x2), 2024 (x2) | The International Journal of Accounting 2017, 2020
- **Discussant and reviewer** at AAA Managerial Accounting Section Midyear Meeting 2012, 2013, 2015, 2017, 2018, 2019, 2020, 2024
- 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, 2023, 2024.
- 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 (road and dirt), running, computer programming, mountain biking.