Michael Bennett Casale, PhD

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PROFESSIONAL SUMMARY

Over 15 years leading analytics innovation across education, training, and healthcare. Proven expertise in applied behavioral analytics and research, delivering valid, reliable, and actionable insights that guide organizational decision-making and product strategy. Skilled at partnering with executive teams, technical experts, and end users to ensure research drives measurable impact. Track record includes developing immersive training assessments for Fortune 50 companies such as Walmart and Bank of America, and creating mental and physical health measures now used routinely by major healthcare systems, including the U.S. Department of Veterans Affairs.

CORE SKILLS

Behavioral Analytics & Applied Research • Product Analytics Strategy & KPI Development • Experimental Design & Causal Inference • Predictive Modeling & Forecasting • Stakeholder Engagement & Executive Communication • Data-Driven Product Development in Healthcare, Education & Training • Immersive Analytic Development

EXPERIENCE

Vice President, Analytics & Behavioral Science
2021–2025
Penumbra, Alameda, CA

- Led a research team of 10, including data scientists, software engineers, UI/UX designers, and product managers to develop new customer-facing analytic applications leveraging biometric sensor data combined with a variety of decision-making data types. These new analytic applications are routinely used by clinicians for medical assessments.
- Developed accurate and reliable balance assessments and gait measures using machine-learning derived AI models in order to translate motion tracking sensor positions into accurate, holistic patient movements.
- Collaborated cross-functionally with various leaders at Penumbra, including the CEO, President, and commercial strategy leaders to develop clinically and commercially valuable and viable products and strategies, taking Penumbra's REAL System product from research concept to over $10M in annual revenue.
- Set strategic direction for the development of new sensor hardware and data types based on my research initiatives in order to maximize the measurement capability of Penumbra's REAL rehabilitation system.
- Partnered with key clinical opinion leaders and other key healthcare stakeholders to identify crucial areas of clinical value in order to ensure commercial success.
- Led the development of new mental health virtual reality-based applications including PTSD exposure therapy along with mindfulness and distraction therapy by partnering with clinical psychologists and other leading VA mental health providers.
- Spearheaded external clinical research initiatives with the VA and other renowned research hospitals.
- Delivered 15 product releases over 36 months.Developed real-time detection of patient movement quality to automatically guide patients and therapists during therapy sessions, using a combination of top-down clinical intelligence and machine learning-based intelligence approaches.

- Led customer communication and marketing efforts articulating the value of our product to clinical and commercial leaders in relevant healthcare spaces

Chief Science Officer **2016–2021**

Strivr, Palo Alto, CA

- Led the development of Strivr's training platform product by using scientifically validated learning and decision making principles to create optimal training content and customer-facing analytics. These training products and analytic dashboards have been used for years by Fortune 50 companies.
- Led the development of Strivr's 'Intelligent Authoring' product feature, and subsequent patent, in order to embed scientifically-driven learning principles into Strivr's customer-facing training development platform (US Patent 11836329, Intelligent Authoring for Virtual Reality).
- Led the research and development of multiple machine learning models to provide a more objective analysis and understanding of corporate trainees' proficiencies that predict on-the-job performance better than traditional assessments.
- Led the research and development of new conversational analytics to provide customers more objective, predictive, and actionable insights, allowing companies to better assess their employees' interpersonal skills.
- Led data science and front-end development teams to develop novel dashboards and reports that allowed customers to easily assess and predict which employees needed more training and which did not, ultimately demonstrating that Strivr's measures were more predictive than traditional training assessments.
- Granted a patent around the development of new measurements using novel data types provided by new immersive technologies (US Patent 10586469, Training for Virtual Reality).
- Supported key commercial efforts, including keynote speaking engagements, media interviews (WSJ, NYT, Vice), and executive stakeholder meetings.

Principal Investigator **2011–2016**

West Health Institute, La Jolla, CA

- Led a team of computer scientists, clinical researchers, and graphic artists to develop a new, automated behavioral therapy for children with Autism Spectrum Disorders. Led associated clinical research studies to understand their effectiveness on behavior. Results communicated in various academic outlets as well as broader mainstream outlets.
- Led over a dozen research efforts with researchers from major universities to understand the clinical and financial impact of our novel healthcare solutions, encompassing everything from research design and implementation to analyses and dissemination.
- Developed and analyzed surveys with NORC survey researchers aimed at understanding the national sentiment around the current state of healthcare in order to help drive new healthcare policy.

Postdoctoral Research Fellow **2009–2011**

University of California - San Diego, La Jolla, CA

- Developed research protocols and computational models aimed at understanding these behaviors and the brain processes that guide them.
- Designed, executed, and analyzed research studies aimed at understanding the link between brain and behavior for various cognitive phenomena.
- Developed neurobiologically realistic computational network models that simulated human cognition in order to gain insight into the biological processes that guide these behaviors.

Market Research Psychologist **2007–2009**
The Institute for Perception, Richmond, VA

- Designed and developed cutting-edge predictive market research models, providing better consumer insights in order to better inform new consumer landscapes and predict the success of new product development.
- Led, designed, and executed research investigations, providing insight into consumer liking behaviors and guiding new product development for Fortune 500 and other large global companies across various industries.

EDUCATION

Ph.D., Psychology & Cognitive Neuroscience, University of California, Santa Barbara
B.S., Biopsychology, University of California, Santa Barbara

TECHNICAL SKILLS

Languages & Tools: R, Python, SQL, Matlab, Databricks, Tableau, Excel
Specialties: Data Visualization, Statistical Modeling, Machine Learning, Dashboard Development

SELECTED ACHIEVEMENTS

- U.S. Patent 11836329 *Intelligent Authoring for Virtual Reality*
- U.S. Patent 10586469 *Training for Virtual Reality*
- Featured guest on Neil deGrasse Tyson's *Playing with Science*
- Invited Speaker: Nike Corporate-wide Learning & Development Workshop
- Council Member: World Economic Forum's (WEF) VR/AR Council
- Invited Speaker: MIT EmTech (TED-style talk)
- Work at Strivr highlighted in *The Wall Street Journal* and *The New York Times*
- Adjunct Professor, UC San Diego and University of San Diego
- Authored dozens of peer-reviewed research articles in leading science journals (CV available upon request)
- Delivered analytics "short courses" featuring Fortune 500 marketing executives