

# Michael Butros

## Curriculum Vitae

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### Education

- 2024- **Masters of Science - Analytics**, *Georgia Institute of Technology*, Atlanta, GA,  
Expected completion in 2027
- 1997–2000 **Masters of Science - Mathematics**, *Northern Arizona University*, Flagstaff, AZ  
[Master thesis](#)
- title Nonlinear Elliptical Boundary Value Problems: A numerical Approach
- supervisors John M. Neuberger (advisor), Lawrence M. Perko (committee member), and James W. Swift (committee member)
- description Investigate numerical solutions to a nonlinear elliptical partial differential equation. We use Fourier expansion via an orthonormal basis formed using Bessel functions to find critical points of a functional.
- 1991–1994 **Bachelors of Science - Applied Mathematics**, *University of California, Irvine*, Irvine, CA
- 1989–1991 **Associates of Science - Math and Science**, *Victor Valley College*, Victorville, CA

### Experience

- 2024- **Director of Education - AI4OPT**, *Georgia Institute of Technology*, Atlanta, GA  
[Teaching](#)
- 2010–2024 **Professor**, *Victor Valley College*, Victorville, CA  
Teach physics and mathematics courses at VVC
- 2008–2010 **Associate Professor, Departments of Physics and Mathematics**, *Victor Valley College*, Victorville, CA  
Teach physics and mathematics courses at VVC
- 2004–2007 **Associate Professor, Department of Mathematics**, *Victor Valley College*, Victorville, CA  
Teach mathematics courses at VVC
- 2000–2004 **Instructor, Department of Mathematics**, *Victor Valley College*, Victorville, CA  
Teach mathematics courses at VVC

## Other Teaching Related Experience

- Summers **AI4OPT Faculty Training Program Participant**, *Training received on Data Science, Mining and Engineering, Machine Learning, Deep Learning, and Generative AI*, Georgia Institute of Technology (GA Tech)
- 2022–2024
- 2021–2023 **Distance Education Faculty Facilitator**, *Victor Valley College*
- 2020–2023 **Visiting Professor**, *NASA' Armstrong Flight Research Center*  
Visiting professor, and student mentor for Summer Internship Program
- 2015–2024 **Society of Physics Students Chapter Advisor**
- 2014–2018 **Visiting Professor**, *NASA' Armstrong Flight Research Center*  
Visiting professor, and student mentor for Summer Internship Program
- 2008–2016 **Faculty Advisor**, *NASA' Armstrong Flight Research Center*  
JPL's CURE Program at VVC Campus
- 2011–2024 **Society of Physics Students Club Faculty Advisor**

## Skills

- Quarto
- R/RStudio for Data Science
- Python for Data Science
- Operating Systems: MS Windows and Mac OS
- Productivity Suites: MS Office, Google, and Mac iWork Products
- Learning Management Systems: Canvas, Blackboard, and Moodle
- Computer Algebra Systems: Maple, Mathematica, and SageMath
- Numerical Computational Software: MATLAB, JULIA, and SciLab

## Teaching Techniques I Use

- Flipped Classrooms
- Inquiry Based Learning
- Standard Based Grading
- Integration of Computation
- Web-Enhanced Courses

## Grants

- VVC Faculty Grant Program submitted 2022 – Student Research (Funded for \$2400)
- NSF -DUE Grant Team Member with VVC, Cal Poly Pomona, Mt. San Antonio, Citrus College. Submitted 2022. (Funded for \$998,453 for 2023 – 2026)
- NSF – CREST II Grant Team Member with VVC, COD, and CSUSB submitted 2019. (Funded for \$5 million for 2020 – 2024)
- VVC Faculty Grant Program submitted 2018 – Student Research (Funded for \$2400)

- VVC Faculty Grant Program submitted 2018 – Alternative Fuel Vehicle (Funded for \$1500)
- VVC Faculty Grant Program submitted 2017 – Student Research (Funded for \$2400)
- VVC Faculty Grant Program submitted 2017 – Design, build, launch a Rocket. (Funded for \$2500)
- Rising Data NASA Grant Consortium Team Member submitted 2016. (Funded for 2 years 2017 – 2018)
- California Space Grant Consortium Team Member submitted 2015. (Funded 2015 – 2017)
- NSF – CREST Grant Team Member with VVC, COD, and CSUSB submitted 2014. (Funded for \$5 million for 2015 – 2019)
- VVC Faculty Grant Program submitted 2009. (Funded for \$1250)
- Title V Grant Team Member submitted 2004. (Funded for \$2.4 million for 2005 – 2010)
- VVC Faculty Grant Program submitted 2003. (Funded for \$2500)

## Presentations

- Reinforcement Learning, AI4OPT Faculty Training Program Cohort 2, 2024
- Quarto and VS Code, AI4OPT Faculty Training Program Cohort 2, 2024
- Reinforcement Learning, AI4OPT Faculty Training Program Reading Session, 2024
- Normalizing Flows, AI4OPT Faculty Training Program Reading Session, 2024
- Un-Grading: Standard Based Grading, VVC Professional Development Event 2021
- Web-Enhanced Classes, VVC Professional Development Event 2021
- A computational Approach to University Physics, AAPT Winter Meeting 2020
- Undergraduate Computational Research Opportunities in Introductory Courses, AAPT Summer Meeting 2018
- Engaging STEM Students Through Partnerships, CUR URPD Conference 2017
- An Inquiry Based Learning Approach to University Physics, R. L. Moore Conference 2013
- Integration by Parts and the Hydrogen Atom, VVC 2003
- Matrices in Physics Education, VVC 2002
- Teaching as a Career, VVC 2001
- Nonlinear Elliptical Boundary Value Problems, MAA Southwest Regional Conference, 2000
- Bifurcation Diagrams and Stability of Critical Points, NAU Applied Math Seminar Series, 2000

## Publications

- Printed Test Bank for Introductory Statistics, Tenth Edition, by Neil Weis, Addison-Wesley 2014

- Printed Test Bank for Elementary Statistics, Ninth Edition, by Neil Weis, Addison-Wesley 2014
- Printed Test Bank for Introductory Statistics, Ninth Edition, by Neil Weis, Addison-Wesley 2011
- Printed Test Bank for Elementary Statistics, Eighth Edition, by Neil Weis, Addison-Wesley 2011
- Printed Test Bank for Introductory Statistics, Eighth Edition, by Neil Weis, Addison-Wesley 2007
- Printed Test Bank for Elementary Statistics, Seventh Edition, by Neil Weis, Addison-Wesley 2007
- Instructor's Solution Manual for Calculus for the Life Sciences, by Bittinger, Brand, and Quintanella, Addison-Wesley 2006
- Student's Solution Manual for Calculus for the Life Sciences, by Bittinger, Brand, and Quintanella, Addison-Wesley 2006
- Printed Test Bank for Introductory Statistics, Seventh Edition, by Neil Weis, Addison-Wesley 2004
- Printed Test Bank for Elementary Statistics, Sixth Edition, by Neil Weis, Addison-Wesley 2004
- Nonlinear Elliptic Value Problems: A Numerical Approach, (Thesis), NAU 2000

## Awards

- Best Mentor Award, VVC Students 2019
- Reverse Teacher's Pet Award, VVC 2013
- Students Choice Award, VVC 2010
- Student Choice Award, VVC 2009
- Student Choice Award, VVC 2008
- Who's Who Among America's Teachers 2006-2007
- Graduate Teaching Assistant of the Year, NAU 2000
- Tutor of the Semester, ASU Athletics Department, 1995
- Tutor of the Year, VVC 1991

## Membership in Professional Organizations

- INFORMS Data Science Professional Society (INFORMS)
- American Association of Physics Teachers (AAPT)
- Mathematical Association of America (MAA)

## Languages

- English: Speak, read and write
- Arabic: Speak, read, and write

## Hobbies

- Reading: especially Books on Physics and Mathematics, Education, and Computation Sciences
- Martial Arts: especially Aikido, Muay Thai, and Jiu Jitsu
- Listening to Music: Arabic and English Music
- Walking/Hiking
- Cooking