

# C. Carlo Fazioli

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I am an applied mathematician and software engineering generalist with experience in cloud computing, AI, and DevOps. I am a lifelong learner with far-ranging interests, confident in my ability to rapidly spin up in new environments, as well as deep-dive into the gritty details.

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## Current Position

2018 – 2024 **Software Engineer**, *Group W, Inc*, Vienna VA

Product manager of, and contributor to, an AI wargaming application developed as a multi-year, multimillion-dollar Defense Advanced Research Projects Agency seedling project between 2019-2021 before transitioning to further development under the Air Force Research Laboratory. Project was awarded the 2021 Military Operations Research Society [Barchi prize](#).

- Product management:
  - Iterated frequently with client-side management and SMEs to understand evolving priorities.
  - Coordinated with client and developers to produce task orders and accurate level-of-effort estimates.
  - Communicated with corporate admins to track budget use.
  - Authored monthly status reports and annual final reports.
  - Presented at conferences and during networking calls to spread awareness of team efforts.
- Cloud-native Architecture:
  - Architected microservices and their interfaces.
  - Designed two deployment mechanisms: Kubernetes and Docker.
  - Managed Kubernetes objects using Helm.
  - Defined cloud resource requirements with Infrastructure as Code.
- Agile Development:
  - Acted as unofficial Agile Team Leader for a team of 10.
  - Assembled a robust GitLab CICD Pipeline.
  - Facilitated uniform development workflows with a custom Docker image.
- Software Engineering:
  - Designed AI algorithms under a senior staff guidance.
  - Implemented a from-scratch K-medoids algorithm to cluster wargame state data.
  - Authored application source code in Python.
  - Detailed significant portions of the project in technical documentation.
  - Constructed a REST API and Software Development Kit.
- System Administration:
  - Controlled application access using Azure AD for corporate users, and Keycloak for external users
  - Administrated multiple MongoDB instances (each 10GB-1TB)

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## Education

2005 – 2009 **Ph.D. Mathematics**, *University of Illinois at Chicago*, Chicago IL

2000 – 2004 **B.S. Mathematics**, *University of San Francisco*, San Francisco CA

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## Previous Positions

- 2016 – 2018 **Econometric Modeler**, *International Monetary Fund*, Washington DC  
Collaborated with IMF economists on global economic model development; researched, designed, and implemented algorithms for use by IMF staff; pursued exploratory research into technology solutions for IMF institutional needs; addressed technical needs of individual IMF staff.
- 2013 – 2016 **Assistant Teaching Professor**, *Dept. of Mathematics*, Drexel University, Philadelphia, PA  
Developed course and lab materials; lectured, graded exams, monitored students' use of online resources, assigned final grades; assisted students as needed outside of class or in office hours; directed teaching assistants.
- 2011 – 2013 **Postdoctoral Research Associate**, *Dept. of Mathematical Sciences*, New Jersey Inst. of Tech., Newark, NJ  
Researched, designed, and coded novel algorithms for use in fluid dynamics simulations; briefed research supervisor; presented findings to collaborators and conference attendees.

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## Hobbies and Interests

- Solving the NYT crossword puzzle daily: I am on 401 day streak at the time of this writing!
- Mindfulness: striving frequent meditator and proponent of mental health.
- Science fiction lit/TV/movies: I'm a fan of classic authors such as Phil K. Dick, contemporary authors such as Neal Stephenson, and the '80s and '90s campiness of movie director Paul Verhoeven.
- Coding competitions: I made it onto the 2021 Advent of Code [global leaderboard](#)!
- Cybersecurity: Avid listener of Risky Biz and Darknet Diaries podcasts; amateur malware analyst.