

# Christopher Burch

DATA SCIENTIST AND CONSULTANT

Fredericksburg, Virginia

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## Summary

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An experienced data analyst and team leader. I take pride in transforming data into business insight and building teams that perform as more than the sum of their parts.

## Experience

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### Grant Leading Technology

DATA SCIENTIST AND CONSULTANT

2018 - Present

- Technical lead for FAA property data visualization, covering more than \$9 billion in managed property.
- Built machine learning models to analyze and predict vehicle fleet fuel use, mileage, and accident rates, resulting in improved FAA vehicle training policy.
- Wrote and maintained open-source R packages to interface with existing Federal APIs, improving FAA reporting automation and reducing errors.
- Managed development of the FAA-wide vehicle recall status tracking system, reducing outstanding vehicle recalls by 90%.
- Applied systems theory to model complex interactions between business units, and proposed workflow process improvements based on those models.
- Wrote, built, and administered rollout of a new company-wide employee evaluation system.

### Cogentis Therapeutics

COFOUNDER / CHIEF DATA OFFICER

2014 - 2018

- Developed financial models which reduced investor risk and controlled experimental risk for increased stability in the startup ecosystem.
- Created company data standard operating procedures (SOP), code books, and data dictionaries.
- Prepared data visualizations for company communication, publication, and grantwriting.

### US Army 20th Special Forces Group

ADVANCED SKILLS INSTRUCTOR

2009 - 2011

- Senior CQB/Close Combat Instructor for US Army, US Navy, and NATO forces in close quarters combat (CQB), fighting in built-up areas (FIBU), advanced urban combat (SFAUC), and advanced special operations (ASO).
- Lead a team of 5 – 10 junior instructors; responsible for subordinate instruction in firearms and small unit tactics proficiency, range preparation, and field exercise coordination.
- Developed a metrics-based training evaluation system to A/B test multiple techniques.

### US Army 10th Special Forces Group

SPECIAL FORCES COMMUNICATIONS NCO

2004 - 2009

- Trained and advised more than 2,000 foreign military and police force personnel in patrolling, advanced urban combat, marksmanship, and mission planning.
- Participated in more than 250 named missions across Afghanistan, Africa, and Eastern Europe in support of US and NATO counterterrorism efforts.

## Education

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### Massachusetts Institute of Technology

MICROMASTERS CERTIFICATE

2015-2017

- Graduate training in Data, Economics, and Developmental Policy (DEDP)

### Johns Hopkins University

MASTER OF BUSINESS ADMINISTRATION

2013-2015

- Double Specialization in Risk Management and Marketing

### Arizona State University Global Campus

BACHELOR OF ARTS, ORGANIZATIONAL MANAGEMENT

2011-2013

- SALUTE National Honors Society

## Current Certifications

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### Certified Professional Property Specialist (CPPS)

NATIONAL PROPERTY MANAGEMENT ASSOCIATION

### Lean Six Sigma Yellow Belt

GRANT LEADING TECHNOLOGY

### Certified Risk Analyst (CRA)

GLOBAL ACADEMY OF FINANCE AND MANAGEMENT

## Awards

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### MassChallenge

FINALIST

2020 & 2016

- Startup incubator and business model contest. Selected as a Top 20 Finalist, the incubator's highest honor, from more than 500 startups from across the globe.

### Neuro StartUp Challenge

1ST PLACE

2015

- NIH / Oxbridge - funded competition to develop existing NIH patents.

### Wake Forest Business School Business Case Competition

1ST PLACE

2015

- Biotech business case competition with Boston Scientific.

### Federal Bureau of Investigation

DIRECTOR'S AWARD FOR EXCELLENCE

2014

- First unit outside of the FBI to receive this award.

### US Army

BRONZE STAR MEDAL

2009

- Awarded for combat actions in Logar, Afghanistan.

## Publications

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1. Burch, C. (2020). *Altfuelr: An interface to the nrel alternate fuels locator*. <https://CRAN.R-project.org/package=altfuelr>

2. Burch, C. (2020). *Vindecodr: An interface to the us department of transportation vin decoder*. <https://CRAN.R-project.org/package=vindecodr>