

Full-Stack Developer  
Data Analyst  
Hacker

# Matthew C. Bowyer

[bowsoftware.com](http://bowsoftware.com)

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## Education

**Now**      **Rutgers University**    September 2014 – Now      **New Brunswick, NJ**  
❖ School of Arts and Sciences with Major in Computer Science, Minor in Mathematics-Statistics and Economics

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## Internships

**Now**      **Fidelity**    June 2016 – Now      **Boston, MA**  
**TRADING PLATFORM ENGINEER**  
❖ Worked with the Trading Desk at the headquarters of Fidelity to build an application that automated the on-boarding process of commissioning and decommissioning new Traders and Brokers  
❖ Saved Traders approximately 45 minutes for each process which is approximately a 90% reduction in time.  
❖ Functioned as a team leader and a full stack developer programming in PL/SQL to automated data entry and created a user interface with Oracle Application Express

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## Freelance

**2016**      **Drone Go Home**    May 2016 – August 2016      **New Brunswick, NJ**  
❖ Configured a Raspberry Pi with Kali Linux to function as an anti-drone beacon  
❖ Wrote a python script to execute a denial of service attack to all drones in its radius by sending deauthentication packets  
❖ Connected the beacon to the Internet of Things by allowing remote devices to connect to the beacons network

**2015**      **Fair Value Partners**    November 2015 – February 2016      **New Brunswick, NJ**  
❖ Set up a MySQL database on Amazon Web Services to store tick data for backtesting  
❖ Implemented an event-driven trading engine in python for historic backtesting and eventually live trading

**2014**      **Drive.AI**    December 2014 – Now      **New Brunswick, NJ**  
❖ Co-Founded a non profit organization that does open-source research and development for self-driving cars  
❖ Working with the senators and the tech community to get drone legislation passed--NJ Assembly Bill A1326  
❖ Programmed a 3-layer neural network in Python using the BFGS optimization algorithm for the learning process  
❖ Wired the engine, brakes, and main axle to an arduino using servo motors and linear actuators to actuate our LSV

**2013**      **Black -Scholes Calculator**    June 2013 – September 2013      **Wayne, NJ**  
❖ Worked with a former American Stock Exchange Market Maker to create a mobile iOS Financial Application  
❖ The application calculated theoretical Put and Call option prices based on 6 input variables in accordance with the Black-Scholes Model.  
❖ Calculated first and second order pricing sensitivity to the input variables – commonly referred to as “The Greeks”

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## Technical Skills

### Full-Stack Development

- Python
- Django REST API
- Swift iOS
- HTML5/CSS3
- Javascript

### Data Analysis

- Scipy, NumPy, Pandas
- Sci-kit Learn
- Neural Networks
- Bayesian Networks
- Support Vector Machines

### Cyber Security

- Cross-Site Scripting
  - SQL Injections
  - x86 Assembly Code
  - Kali Linux Aircrack-ng
  - C/C++
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### Github (Code)

<https://github.com/MattCBow>

### Quantopian (Algorithmic Trading)

<https://www.quantopian.com/users/5502154fdb7751e40800003a>

### LinkedIn (Experience)

<https://www.linkedin.com/in/matt-bowyer-841877a8>