

# Matt Bradley

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## Education

**Middle Tennessee State University** 2010 – 2012  
*Master of Science, Computer Science* GPA: 4.0

**Mercer University** 2005 – 2009  
*Bachelor of Science in Engineering, Biomedical Eng.* GPA: 3.0

## Work Experience

**TrueCar, Inc.** 2014 – present  
*Senior Software Engineer*  
Rails, PostgreSQL, Redis, Elasticsearch, AWS

Worked on cross-functional teams building a backend for iOS and Android apps, service APIs for searching and aggregating vehicle and pricing data, and an internal vehicle data management tool. Later, participated in the hiring process, technology decisions, and technical leadership for TrueCar's shift from legacy Java systems to Rails APIs.

**CarWoo, Inc.** 2013  
*Software Developer*  
Rails, RSpec, MySQL, Sass, JavaScript

Worked on backend and frontend components of the main product, as well as on partner APIs, embeddable widgets, and in-house goals and analytics tracking.

**Bondware Web Solutions** 2011 – 2013  
*Software Developer*  
PHP, MySQL, JavaScript

Worked with a small team of developers on a newspaper content management system, a drag-and-drop website builder, and an email marketing service.

## Selected Projects

**Dash Self-Driving Car Simulator** WebGL, Three.js 2018

A real-time, on-road, lattice-based autonomous vehicle motion planner in the browser. Modern parallel motion planning algorithms originally designed for CUDA were overhauled to make implementation within the constraints of WebGL fragment shaders possible. Three.js is used to visualize 3D on-road scenarios in a real-time simulation.

**Mattlang** Ruby 2017

A statically-typed, functional toy language inspired by Elixir and Swift, featuring parametric polymorphism, union and intersection types, type inference, complex pattern matching, and an interactive REPL.

**CARRY.GG** (inactive) Rails, React 2015

A solo-developed League of Legends game history and player statistics site. Built with Rails, Redis, and React and hosted on Heroku, Carry.gg fetched and aggregated raw game data from the Riot Games API into an easily digestible user experience that allowed players to assess the strengths and weaknesses of themselves and their opponents. At its peak, Carry.gg served 1 million hits per month to 60,000 monthly unique visitors.

**Path Planning and Path Following for an Autonomous Car** (Master's Thesis) C# 2012

A project that describes, implements, and tests modern path finding and path following algorithms for an autonomous vehicle. The simulator plans a safe route for a virtual car through an obstacle-rich environment. The path tracker then accurately executes this path with real-time error correction.