

Deployment of Web Applications in the AWS Environment  
(Technical Report)

The Struggle for the Robotic Car in California  
(Sociotechnical Research Paper)

An Undergraduate Thesis Portfolio  
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by

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## Preface

What do robotic cars have to offer to the future of road transportation?

Over the course of the last three summers as an intern for QinetiQ, a DC based defense contractor, I added features to existing projects and developed new tools as needed. I used the React framework, deployed with various Amazon Web Services (AWS). I designed the solutions to use a React front end for easy changes and add-ons using AWS Amplify to deploy the front end, and a combination of AWS Cognito, API gateway, and DynamoDB in order to sign in, and retrieve and store data. Finally, I used AWS lambda functions to tie everything together. This experience allowed me to learn a lot about AWS and full stack development, while producing useful products in a workplace. I found that the currently available cloud computing options make standing up new projects very easy for full stack developers, allowing us to focus efforts on more important parts of the project. In the future, I anticipate adding additional security features to lock down the applications more.

Since the initial rounds of releases in 2008, how have social groups in California competed to determine the place of robotic vehicles in the future of road transportation in the state? This is an important question to ask in order to understand the future of robotic cars moving forward. Many trade groups have pushed agendas with worrying and incorrect mantras, and are joined by advocacies for disabled people when robotic cars as they exist right now and for the foreseeable future do not solve many of the issues for the people they represent. The California government also pushes this agenda despite community backlash from groups like the Safe Street Rebels who take physical approaches like coning cars to stop them. If robotic cars are to succeed, companies will need to address many safety concerns and potentially implement low tech solutions to make them actually help older generations and those with disabilities