



## About Us:

The Zero Card is helping solve our country's health care cost problems by making health care for elective procedures simple, transparent and 100% accessible. We work directly with self-funded employers to lower their costs and simultaneously improve employee benefits by giving their employees access to care for \$0. We built a healthcare marketplace so our client's employees and their families could find the best combination of cost, quality and convenience for their healthcare needs.

## About You:

You enjoy solving data problems and working with large and complex datasets and have a desire to find a solution to problems in healthcare. You like the blend of research and development to deliver a solution toward the end of the project.

## The Project:

The Zero Card provides our clients with significant cost savings for healthcare procedures. Unfortunately much of the healthcare system is still operating on the old model of fee-for-service in which you pay for every service you receive. In order to make it easier on our customers and the patients, The Zero Card provides customers with just one price for an entire procedure as a [bundled service](#) (e.g. an knee arthroscopy consists of the actual facility charges, professional charges, labs, scans, anesthesia, ... ), resulting in savings of 25% - 50%.

To provide this service our customers give us anonymized medical claims data for analysis. We ingest this data into our system and then run deterministic algorithms to bundle these claims into bundled services.

The goal of the field session is to evaluate different self-optimizing clustering algorithms on this dataset and identify the most performant/accurate algorithm. We can use a portion of the manually reviewed data to train the algorithm and run the proposed algorithm against the remainder of the claims data.

### What success looks like

- You make a proposal for 2 algorithms that identifies certain procedures which cannot be treated as a bundled service (e.g. emergency services need to be identified and ignored)
- You review clustering algorithms and propose 2 clustering techniques for in-depth evaluation.
- You implement these 4 techniques and report on the accuracy (recall and precision) of the algorithm, as well as the performance (# lines per second)

### Skills required

- You have a good understanding of programming in general and are proficient in one programming language. All our code is currently written in Go(lang) and Javascript but for this project we will accept the technology that makes you most productive.
- You have a basic understanding of machine learning and are willing to dig in and learn quickly.

### Student benefits

- You will get exposure to cutting-edge technology and help decide which tools to use.
- You can help in significantly reducing the cost, increasing quality and convenience of healthcare for people needing care.
- You'll be working in close collaboration with the CTO and be exposed to the business and engineering practices.
- A limited number of paid summer internships may be available upon project completion.
- For this project you can work remotely. Remote communication tools of the company will be made available to you.

### Contact information:

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