IRisk Lab Data Discovery and Consolidation - Task 2

Week 6 Report

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What Was Accomplished

- ★ Analyzed Allstate dataset and how they have scammed big spenders
    - Allstate Corporation sought to update its auto insurance rates in Maryland, citing outdated premiums for its 93,000 customers.
    - The insurer proposed using a complex algorithm called a "customer retention model" to gradually adjust rates rather than implementing new rates all at once.
    - The analysis found that the algorithm seemed to disproportionately target high-spending customers for larger price hikes.
    - Customers already paying high premiums faced potential increases of up to 20%, while those with cheaper policies saw maximum increases of only 5%.
    - Allstate's algorithm also denied meaningful decreases to customers overcharged according to the new risk profile.
    - Maryland ultimately rejected the plan as discriminatory, but Allstate continued to propose similar models in other states.
    - Some states accepted Allstate's retention models, but it remains unclear if they functioned the same way as the Maryland proposal.
    - Personalized pricing based on algorithms that factor in individual behavior raises concerns about fairness and discrimination.
    - Critics argue that certain factors like race, poverty, and health can indirectly influence personalized pricing.
    - Auto insurance is mandatory in most states, making fair pricing crucial.
    - Some states have prohibited "price optimization" and complex pricing models used by insurers.
    - Allstate faced pushback from regulators and consumer advocates over its pricing methods.

- The complexity of rate filings and lack of transparency make it difficult for consumers to know if they are overpaying.
- Insurers often do not disclose full details of their pricing algorithms to regulators, further obscuring pricing decisions.
- The document highlights the challenges regulators face in understanding and regulating insurance pricing models.

★ Analyzed how the investigators analyzed the Allstate algorithm

- Allstate uses personalized pricing algorithms for auto insurance based on big data.
- The company employs a retention model to estimate customer likelihood of switching insurers due to price changes.
- Allstate calculates an "ideal price" based on risk factors and proposes a "transition price" to adjust rates gradually.
- Customers paying higher premiums faced larger rate increases (up to 20%), while those with lower premiums received smaller increases (capped at 5.02%).
- Middle-aged customers (aged 41 to 62), males, and communities with over 75% nonwhite populations were disproportionately affected.
- Customers aged 63 and older were less likely to receive significant discounts.
- Concerns exist about "price optimization" practices, including charging customers based on non-risk factors.
- Some states have prohibited price optimization, but Allstate continued to use retention models in various states.
- The report used customer-level data from a 2013 Maryland rate filing and employed statistical and machine learning analysis techniques.
- Allstate disputed the report's findings and claimed that the Maryland filing was never used.

★ Found additional related auto insurance datasets

- https://emcien.com/sample-data-sets-2/
  - Auto Insurance Claims – Automobile Insurance claims including location, policy type and claim amount

★ Found additional datasets

- https://catalog.data.gov/dataset/fy11-eom-august-face-amount-of-life-insurance-coverage-by-program-by-state
  - Face value of insurance for each administered life insurance program listed by state
- https://content.naic.org/cipr-topics/insurance-industry-snapshots-and-analysis-reports
  - 2022 Annual Health Insurance Industry Analysis Report
  - 2022 Annual Life/A&H Insurance Industry Analysis Report
  - 2022 Annual Property & Casualty and Title Insurance Industries Analysis Report

Challenges

★ Finding additional insurance datasets related to Allstate auto insurance algorithm

Next Steps

➢ Work on finalized database