Alex Zajichek

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Experience

Advanced Analytics Modeler, December 2019-Present
Sentry Insurance, Stevens Point, WI

- Building Python-based text mining application for extracting claim information
- Implemented machine learning models from text data in R
- Wrote complex SQL queries to extract data from various sources
- Create dashboards to drive business insight and decision making
- Use multivariable modeling to appropriately price insurance products

Biostatistician, June 2017-December 2019
Cleveland Clinic, Cleveland, OH

- Built and automated an appointment no-show prediction system tailored to operability
- Built statistical/machine learning models for clinical outcomes using EHR (Epic) data and other sources
- Developed Shiny-based web applications for clinical risk prediction models
- Wrote complex SQL queries to extract accurate EHR data utilizing the UMLS
- Consulted with pharmaceutical companies on EHR-based health outcomes research projects
- Contributed in writing statistical methods sections for grants and manuscripts
- Caregiver Excellence Award, 2018-Q2

Teaching Assistant/Statistical Consultant, 2015-2017
University of Iowa, Iowa City, IA

- Taught statistics courses, graded papers, proctored exams
- Built a database application in R shiny with SQLite connection
- Led a workshop on data manipulation in R

Skills

General
Concurrent project management, communication of project specifications and results, automating processes/workflows, collaboration and leadership

Technical
R (package author/maintainer, tidyverse, ggplot, shiny, H2O, etc.); Java; SQL; Python (pandas, spaCy); SSIS; Open/Stanford NLP; data cleaning, manipulation, visualization; regular expressions

Methodology
Regression modeling (GLM's, GEE's, mixed models), survival analysis, machine learning (random forest, gradient boosting machines, neural networks), natural language processing (NLP), word2vec

Education

M.S. in Statistics, 2017
University of Iowa
Iowa City, IA

- Major GPA: 3.93

B.S. in Statistics, 2015
UW-La Crosse
La Crosse, WI

- Major GPA: 3.91
- Minor: Computer Science

Projects

- R package for Naive Bayes' document classification with Java backend
- Gibbs' sampler in Python
- Custom database language in Java with a hash index and random access files

Coursework
applied statistics, statistical inference, computer intensive statistics, machine/statistical learning, model selection, sports statistics, bayesian statistics, applied time series, nonparametric statistics, categorical data analysis, database management, software design (Java), calculus I-III, linear algebra

Publications

1. Li ALK, **Zajichek A**, Kattan MW, Ji XK, Lo KA, Lee PE. Nomogram to Predict Risk of Postoperative Urinary Retention in Women Undergoing Pelvic Reconstructive Surgery [published online ahead of print, 2020 Apr 27]. J Obstet Gynaecol Can. 2020;S1701-2163(20)30335-2. doi:10.1016/j.jogc.2020.03.021

2. Misra-Hebert AD, Milinovich A, **Zajichek A**, et al. Natural Language Processing Improves Detection of Nonsevere Hypoglycemia in Medical Records Versus Coding Alone in Patients With Type 2 Diabetes but Does Not Improve Prediction of Severe Hypoglycemia Events: An Analysis Using the Electronic Medical Record in a Large Health System. Diabetes Care. 2020;43(8):1937-1940. doi:10.2337/dc19-1791

3. Ali Aminian, **Alexander Zajichek**, David E. Arterburn, Kathy E. Wolski, Stacy A. Brethauer, Philip R. Schauer, Steven E. Nissen, Michael W. Kattan, Predicting 10-Year Risk of End-Organ Complications of Type 2 Diabetes With and Without Metabolic Surgery: A Machine Learning Approach, Diabetes Care Feb 2020, dc192057; DOI: 10.2337/dc19-2057

4. Aminian A, **Zajichek A**, Arterburn DE, et al. Association of Metabolic Surgery With Major Adverse Cardiovascular Outcomes in Patients With Type 2 Diabetes and Obesity. *JAMA*. Published online September 02, 2019. doi:10.1001/jama.2019.14231

5. Xanthopoulos, A. , Papamichalis, M. , **Zajichek, A.** , Milinovich, A. , Kattan, M. W., Skoularigis, J. , Starling, R. C. and Triposkiadis, F. (2019), In-hospital red blood cell distribution width change in patients with heart failure. Eur J Heart Fail. doi:10.1002/ejhf.1546

6. Jones MH, Reinke EK, **Zajichek A**, et al. Neighborhood Socioeconomic Status Affects Patient-Reported Outcome 2 Years After ACL Reconstruction. *Orthop J Sports Med.* 2019;7(6):2325967119851073. Published 2019 Jun 26. doi:10.1177/2325967119851073

7. Cleveland Clinic Orthopaedic Arthroplasty Group. The Main Predictors of Length of Stay After Total Knee Arthroplasty. *Journal of Bone and Joint Surgery.* Published 2019 Jun 19. doi:10.2106/JBJS.18.00758

8. M.C. Ward, N.Y. Lee, J.J. Caudell, **A. Zajichek**, M.J. Awan, S.A. Koyfman, et al. A competing risk nomogram to predict severe late toxicity after modern re-irradiation for squamous carcinoma of the head and neck. Oral Oncol, 90 (2019), pp. 80-86, 10.1016/j.oraloncology.2019.01.022

9. K.A. Derwin, S. Sahoo, **A. Zajichek**, G. Strnad, K.P. Spindler, J.P. Iannotti, et al. Tear characteristics and surgeon predict repair technique and suture anchor usage in repair of superior-posterior rotator cuff tendon tears. J Shoulder Elbow Surg, 28 (2018), pp. 227-236, 10.1016/j.jse.2018.07.028

10. Spindler, Kurt P., Laura J. Huston, **Alexander Zajichek**, Emily K. Reinke, Annunziato Amendola, Jack T. Andrish, Robert H. Brophy, et al. ?Anterior Cruciate Ligament Reconstruction in High School and College-Aged Athletes: Does Autograft Choice Influence Anterior Cruciate Ligament Revision Rates?? The American Journal of Sports Medicine 48, no. 2 (February 2020): 298?309. doi:10.1177/0363546519892991.

11. MOON Knee Group, Jones MH, Oak SR, et al. Predictors of Radiographic Osteoarthritis 2 to 3 Years After Anterior Cruciate Ligament Reconstruction: Data From the MOON On-site Nested Cohort. Orthop J Sports Med. 2019;7(8):2325967119867085. Published 2019 Aug 30. doi:10.1177/2325967119867085

12. Cleveland Clinic OME Arthroplasty Group, Arnold N, Anis H, et al. Preoperative cut-off values for body mass index deny patients clinically significant improvements in patient-reported outcomes after total hip arthroplasty. Bone Joint J. 2020;102-B(6):683-692. doi:10.1302/0301-620X.102B6.BJJ-2019-1644.R1