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| Immigration Status: U.S. Citizen | | | |
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| **EDUCATION**  Ph.D. Physics 2017  University of California, San Diego  B.S. Biophysics 2009  *Summa Cum Laude*  University of California, San Diego  **EXPERTISE**  **Natural Language Processing** Transformers, recurrent neural networks, n-gram models  **Discrete Data Processing**  Deep learning with heterogenous data, boosting and other tree models, linear models  **Machine Learning in Healthcare**  Supervised and unsupervised modeling of clinical progress notes, analysis of discrete EHR data, explainable machine learning model decisions for clinicians  **OTHER INTERSTS**  Semisupervised learning  Active learning/weak supervision  Causal inference  Computer vision  **LANGUAGES/LIBRARIES**  **Python**  tf.keras  numpy/pandas/sklearn/etc  flask/jinja/streamlit  pytorch lightning/NeMo  sqlalchemy  **SQL**  **Matlab**  **C/C++**  **AWARDS AND HONORS**  **Inamori Fellowship** 2014  *Inamori Foundation*  Awarded for outstanding physical science graduate research  **Provost Award of** 2009 **Excellence**  *Warren College, UC San Diego*  Awarded to the top graduating undergraduate student of the Warren College |  | **EXPERIENCE**  **Curai Health**  Senior Machine Learning Researcher 2021-Present   * Developing natural language understanding models for patient dialogue contextualization, topic modeling, sectioning, and summarization. * Developing models for clinical decision support recommender systems   **Kaiser Permanente**  Lead Data Architect (Machine Learning) 2019 – 2021   * Lead the development of a symptom checker, SmartTriage, driven by ML models trained on finding diagnoses extracted from ambulatory progress notes and providing clinical decision support to physicians. * Developed models for converting patient free text responses to discrete medical concepts. * Developed models for clinical decision support by combining patient responses with discrete patient history timeseries.   Data Architect (Machine Learning) 2018 – 2019   * Developed a deep learning model for segmenting contextual structure ("sections") in clinical notes. Model deployed to production doing real time inference on >100M clinical notes per year. * Developed discrete data HCC diagnoses evidence models (predicting thousands of ICD-10 diagnostic codes). Models deployed to production analyzing KP Medicare and ACA patient populations (>1M patients). * Developed a deep learning model for simultaneous parsing and sentence chunking of clinical notes. * Developed boosting ensemble models for in-patient readmission   **University of California, San Diego**  Postdoctoral Research Fellow 2017  Graduate Research Assistant (Physics) 2011 – 2017    Graduate Research Assistant (Neuroscience) 2009 – 2011  **SELECTED PUBLICATIONS**  **I Valmianski,** *et al* **“**SmartTriage: A system for personalized patient data capture, documentation generation, and decision support” Preprint <https://arxiv.org/abs/2010.09905>  **I Valmianski,** *et al* “Evaluating robustness of language models for chief complaint extraction from patient-generated text” *NeurIPS 2019 ML4H Workshop* <https://arxiv.org/abs/1911.06915>  **I Valmianski**, *et al* “Microscopy image segmentation tool: robust image data analysis”, *Rev. of Sci. Inst.* 85 (3) pp 33701 (2014)  **I Valmianski**, *et al* “Automatic identification of fluorescently labeled brain cells for rapid functional imaging”, *J. Neurophys* 104 (3) pp1803-1811 (2010)  Overall metrics: >25 publications, >440 citations, h-index: 13  Google Scholar: <https://scholar.google.com/citations?user=HsOak4YAAAAJ>  **Multilingual fluency:** English, Russian  **Hobbies:** hiking, blues dancing | |