Jeremy Irvin

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Education

***Stanford*, M.S. Computer Science, 3.99/4.00 GPA** **Sep 2016 -**
Artificial Intelligence Track

***UC Santa Barbara*, B.S. Computer Science and B.S. Mathematics, 3.97/4.00 GPA** **2012 - June 2016**
College of Creative Studies (CCS)

Publications

- **Irvin, Jeremy***, Rajpurkar, Pranav* et al. (2019) "CheXpert: A Large Chest Radiograph Dataset with Uncertainty Labels and Expert Comparison." In *AAAI Conference on Artificial Intelligence.*
- Rajpurkar, Pranav*, **Irvin, Jeremy***, et al. (2018) "Deep learning for chest radiograph diagnosis: A retrospective comparison of CheXNeXt to practicing radiologists." In *PLOS Medicine*.
- Bien, Nicholas*, Rajpurkar, Pranav*, Ball, Robyn, **Irvin, Jeremy**, et al. (2018) "Automated and assisted diagnosis for knee MR using deep learning". In *PLOS Medicine*.
- Rajpurkar, Pranav*, **Irvin, Jeremy***, et al. (2018) "MURA: Large Dataset for Abnormality Detection in Musculoskeletal Radiographs." In *1st Conference on Medical Imaging with Deep Learning*.
- Rajpurkar, Pranav*, **Irvin, Jeremy***, et al. (2017) "CheXNet: Radiologist-Level Pneumonia Detection on Chest X-Rays with Deep Learning." *arXiv preprint arXiv:1711.05225*.
- **Irvin, Jeremy**, Spokoyny, Daniel, and Fermín Moscoso del Prado Martín. (2016) "Dynamical systems modeling of the child–mother dyad: Causality between child-directed language complexity and language development." In *Proceedings of the 38th Annual Conference of the Cognitive Science Society*.
- Spokoyny, Daniel, **Irvin, Jeremy**, and Fermín Moscoso del Prado Martín. (2016) "Explicit Causal Connections between the Acquisition of Linguistic Tiers: Evidence from Dynamical Systems Modeling." In *The 54th Annual Meeting of the Association for Computational Linguistics*.
- Fermín Moscoso del Prado Martín, **Irvin, Jeremy**, Spokoyny, Daniel. (2016) "The properties of children's language are caused by those of their mothers', and vice-versa" [submitted to Nature Human Behavior].
- **Irvin, Jeremy**, Fermín Moscoso del Prado Martín. (2016) "Application of Dynamical Systems to Model Human Language Development." Undergraduate Thesis.

* equal contribution

Teaching

Bootcamp Coorganizer, Stanford **Fall 2017 -**
`stanfordmlgroup.github.io/programs/aihc-bootcamp-winter2018/`
- Coorganized four quarter-long 8-16 person AI in healthcare bootcamps with several professors
- Led teams of students on research projects across radiology, pathology, and public health

Course Assistant, Stanford **Fall 2017**
`cs229.stanford.edu/`
- Teaching assistant for Stanford's machine learning course (CS229)
- Led weekly section covering external material
- Held numerous office hours and organized midterm logistics

Co-lecturer, UCSB **Winter 2016**
`computer-learning.github.io/class/`
- Co-taught a course on ML, NLP, and Deep Learning
- Led 15 course lectures throughout the quarter
- Created over 250 lecture slides

Industry

Data Scientist Intern, Microsoft **Summer 2017**
Market Intelligence
- Trained deep learning intent classifier models using CNTK
- Built a large scale, unsupervised query embedding model to learn information-rich embeddings
- Improved market intelligence platform by integrating deep learning tools into the insights pipeline

Software Engineer Intern, Microsoft **Summer 2016**
Bing Predicts
- Created a model to predict the MTV Video Music Awards's using Bing search and social data
- Wrote Python for scraping, feature engineering, model testing, and MART Gradient Boosting training
- Additionally implemented LSTM's for time series forecasting using Keras and CNTK

Software Engineer Intern, Microsoft **Summer 2015**
Satori (Knowledge Graph) Within Bing
- Developed an algorithm to detect subtle entity relations in an immense ontology and rank them by novelty
- Wrote C# and internal query language as part of an R&D ML pipeline
- Increased run-time by two orders of magnitude, allowing for efficient discovery of the relations