

JOSEPH DENBY

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EDUCATION

The University of Chicago <i>M.A. Computational Social Science</i> Thesis Advisor: Daniel Yurovsky	Chicago, IL Sept. 2017 – Jun. 2019 (expected)
Cornell University <i>B.A. (Hons) Psychology & Philosophy</i> Thesis Advisor: Shimon Edelman	Ithaca, NY Aug. 2013 – May 2017
University of Oxford <i>Visiting Student: Philosophy, Psychology, & Linguistics</i>	Oxford, UK Oct. 2015 – Jun. 2016





PUBLICATIONS

- Denby, J.** & Yurovsky D. (2019) *Predicting early language development with linguistic alignment. (In progress).*
- Denby, J.** & Yurovsky, D. (2018) *Children's books as a unique source of language input.* Poster presented at the Midwest Cognitive Science Conference, Bloomington, Indiana.

AWARDS

University of Chicago Social Sciences Fellowship	2017-2019
Phi Beta Kappa	2017
Outstanding Graduating Senior	2017
Halpern & Rosevear Undergraduate Research Grant	2016
Visiting Studentship at St. Anne's College, University of Oxford	2015-2016

PROJECTS

Children's Book Analysis 2017-2018	 Github
<ul style="list-style-type: none">— Designed and implemented linguistic analyses on a prominent corpus of children's picture books— Discovered new low-level differences between picture book text and child-directed speech— Offered new insights into how picture books can mitigate SES-based outcome disparity	
Hawkwatchers Winter 2018	 Github
<ul style="list-style-type: none">— Analyzed Federal Open Market Committee press releases using Natural Language Processing— Predicted Federal interest rate fluctuations by applying Machine Learning to text data— Accurately categorized 87% of interest rate changes between January 2016 – January 2018	
SateLIFE Spring 2018	 Github
<ul style="list-style-type: none">— Surveyed satellite imagery of Brazzaville and Kinshasa sourced from Google's Earth Engine— Leveraged Cloud Computing platforms to perform complex statistical analyses— Drafted Bash scripts to automate cloud virtual machine initialization and data pipelining	
LDP Alignment 2017-2018	 Github
<ul style="list-style-type: none">— Conducted inferential statistical analyses on a large natural language dataset— Hypothesized and generated Bayesian hierarchical models for linguistic alignment using Stan	

PROFESSIONAL EXPERIENCE

84.51° <i>Data Scientist Intern</i>	Chicago, IL Jun. 2018 – Aug. 2018
<ul style="list-style-type: none">— Overhauled the firm's 'Exception Reporting' method to identify underperforming segments— Instituted novel time series Anomaly Detection algorithm - detected \$127m worth of notable sales— Collaborated with Kroger's pharmacy dept. to detect and prevent prescription abandonment— Developed a Random Forest classification model - outperformed previous method by \$17m	

SKILLS

Programming: Python (`numpy`, `pandas`, `seaborn`, `sklearn`, etc.), R (`tidyverse`), SQL, Bash/Linux, C, MATLAB, Markdown, \LaTeX , Stan, Git

Techniques: Natural Language Processing, Statistical Analysis, Modeling, Machine Learning, Deep Learning, Parallelization (MapReduce, MPI), Data Munging, Data Visualization, Experimental Design, Simulation, Webscraping

Languages: French (fluent)