

Enes Dilber

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EDUCATION

UNIVERSITY OF MICHIGAN

PH. D. CANDIDATE IN STATISTICS

Advisor: Jonathan Terhorst

August 2018 - Apr 2023 (Expected) | Ann Arbor, MI

MIDDLE EAST TECHNICAL UNIVERSITY

BS IN STATISTICS, MINOR IN COMPUTER ENGINEERING

September 2014 - June 2018 | Ankara, Turkey

EXPERIENCE

WAYFAIR | DATA SCIENCE INTERN

June 2022 – August 2022 | Boston, MA

Project Title: *Marketing spend optimization with interaction of channel spendings*

Wayfair optimizes how much they should spend on each advertisement campaign to increase their long-term profit. They optimize this spending for each advertisement channel independently. In my project, I examined whether spending on one campaign could affect the revenue of other ones. Since, if they affect each other, their optimal spending should be set together. I found out, taking this channel interaction into account could increase the profit by 12%. **A short project report can be found here.**

ANCESTRY | DNA DATA SCIENCE INTERN

June 2021 – August 2021 | Lehi, UT

Project Title: *Understand the patterns of ethnicity misassignments*

Ethnicity estimation tells customers what percent of their DNA is most similar to people from 77 regions around the world. Sometimes the model assigns inaccurate ethnicities. My internship project focused on understanding the patterns of those inaccurate assignments. This would help Ancestry.com to identify the best approaches for improving the ethnicity estimates in the future. **A short project report can be found here.**

UNIVERSITY OF MICHIGAN | GRADUATE ASSISTANT

September 2018 – Present | Ann Arbor, MI

- Assisted (Lab instructor and Grader) Statistical Computing, Introduction to Data Science and Introduction to Theoretical Statistics courses.
- Funded as a Research Assistant to do Statistical Genetics research.

DISSERTATION PROJECTS

INFERRING THE DEMOGRAPHIC HISTORY Ongoing

- Estimate history of population size changes, migrations, and other demographic events affecting a set of populations by using a fast approximate method.
- Extend this method to infer phylogenies which helps to model evolutionary processes of viruses.

ROBUST DETECTION OF NATURAL SELECTION 2021

- Derive a new likelihood-based methods for detecting natural selection which are robust to confounding by fluctuations in effective population size. At the core of this method is a novel probabilistic model of tree imbalance, which generalizes Kingman's coalescent to allow certain aberrant tree topologies to arise more frequently than is expected under neutrality.
- **Open source software of the method** and **paper results** are available on github.
- Published in **Genetics**.

COURSEWORK

MATH & STATS

- Statistical Inference
- Probability Theory
- Data Science in Python
- Statistical Genetics
- Bayesian Statistics
- Stochastic Process
- Analysis of Multivariate Data
- Analysis of Time Series Data
- Real Analysis
- Linear Algebra

COMPUTER SCIENCE

- Algorithms And Data Structures
- Data Management And File Structures
- Computer Vision
- Deep Learning
- Data Mining

COMPUTER SKILLS

python

Proficient at;

- Numpy • JAX • scikit-learn
- pandas • re • msprime • tskit

Familiar with;

- TensorFlow • PyTorch • Keras
- NLTK • PySpark

R

Proficient at base R and tidyverse

- ggplot • dplyr • tidyr • purr

OTHER RESEARCH TOOLS

- slurm • The Jupyter Notebook
- Markdown • LaTeX • SQL • Bash
- SLiM 3 • BEAST 2

PUBLIC REPOSITORIES

bim

Software to detect natural selection on whole genome sequences.

pyslurm

Python wrapper for the slurm. It also provides useful functions to visualize and analyze batch jobs in the cluster.

AWARDS

2021 Best **Poster** Award in MSSISS

2018 Promotion to direct Doctor of Philosophy track

2018 Ranked 1st among Statistics graduates