Judah Goldfeder

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EDUCATION

Columbia University, New York, NY
Phd, Computer Science Advisor: Hod Lipson — Jan 2022- Present

Columbia University, New York, NY
MS, Machine Learning Track GPA: 4.0 — Sep 2020- Dec 2021

Yeshiva College Honors Program, Yeshiva University, New York, NY
BA, Double Major in Computer Science and Mathematics, Minor in Jewish Studies — Aug 2017- May 2020
GPA: 3.97 GPA in CS: 4.0 *Summa Cum Laude*

EXPERIENCE

Creative Machines Lab at Columbia University, New York, NY
Graduate Research Assistant — Sep 2020 – Present
- Working with Prof. Hod Lipson on representation learning
- Developing a classification algorithm that can recognize new classes of images with zero additional training

Google AI, New York, NY
Student Researcher — Feb 2022 – Present
- Deploying Reinforcement Learning HVAC Agent to Google buildings
- Currently working on publishing our results

Dicta: The Israel Center for Text Analysis, Jerusalem, Israel
Research Consultant — Jun 2020 – Present
- Worked with Prof. Moshe Koppel on developing educational NLP tools
- Utilized LSTMs and Word2Vec embeddings to automate punctuation tagging of Hebrew Texts
- Incorporated knowledge of Hebrew morphology and developed an original sentence tagging algorithm
- Currently working on publishing our results

Facebook, New York, NY
Software Engineering Intern — Sep – Dec 2021
- Researched applications of Transformer architecture for Graph Neural Networks

Twitter, San Francisco, CA
Software Engineering Intern — Jul – Sep 2021
- Improved upon production ads prediction models via feature engineering based on search context
- Designed and implemented experiments to test model performance

Google AI, New York, NY
Software Engineering Intern — Apr – Jul 2021
- Developed Reinforcement Learning Agent to optimally control heating and cooling of HVAC systems

Learn Ventures, Cambridge, MA
Software Engineering Intern — Jun – Sep 2020
- Studied Reinforcement Learning and DQNs for game playing
- Researched Bioinformatics and Protein Folding using PyRosetta and OpenMM, to aid in Covid-19 drug development
- Developed Educational materials to help teach these topics to a broader audience using innovative interactive online courses

Facebook AI Research, Menlo Park, CA
Software Engineering Intern — May – Aug 2019
- Worked on the Computer Vision Team to index duplicate photos and prevent them from being sent through costly inference models, using a specialized hash function resistant to minor changes between photos
- Researched different caching heuristics, and met regularly with research scientists to discuss my work
- Deployed code site-wide and reduced server load on all of Facebook photo uploads by over 20%

Bar-Ilan University, Ramat Gan, Israel
Research Intern — Jun – Aug 2018
- Worked with Prof. Hillel Kugler on researching the use of formal verification to model gene interaction networks
- Developed a tool to aid in determining behavior of cells given observational information that was computationally competitive with, and extended the expressibility of, a similar tool by Microsoft Research (RE:IN)
- Continued my research into the next year, resulting in the publication of 2 papers

Yeshiva University, New York, NY
Founding Board Member, AI and ML club — Jan – May 2020
Resident Advisor, CS Teaching Assistant, CS Tutor — Aug 2018 – May 2020

VOLUNTEER WORK

Park Inn Home for Adults, Queens, Queens, NY — Dec 2020 – May 2021
- Automated financial data entry workflow from 3 weeks of human data entry to a 6 hour process, including webscraping and OCR

Project START Science, New York, NY — Sep 2018 – May 2020
- Taught STEM related topics to public elementary school children using hands-on modules and projects

Leket, Yavne, Israel — Apr 2016
- Packaged excess food for the largest food bank in the State of Israel, to be delivered to families in need

PUBLICATIONS

Y. Goldfeder, "Divine Science: Reevaluating Rambam's View of Ma'aseh Merkavah," *Yeshiva College. Yeshiva University*, Sep 2020.

J. Goldfeder and H. Kugler, "BRE:IN - A Backend for Reasoning About Interaction Networks with Temporal Logic," *Computational Methods in Systems Biology*, Sep 2019.

J. Goldfeder and H. Kugler, "Temporal Logic Based Synthesis of Experimentally Constrained Interaction Networks," *International Symposium on Molecular Logic and Computational Synthetic Biology*, Dec 2018.

AWARDS

Gertrude Nissenbaum Memorial Award for Excellence in Computer Science
YU Distinguished Honors Scholarship, Yeshiva College
Dean Samuel L. Sar Memorial Award for Excellence in Bible Studies
Dean's List, all semesters, Yeshiva College
Elliot Steinberger Memorial Award for Excellence in the Study of Torah and Sciences
New York State Regents Scholarship
Masmidim Honors Scholarship, Mazer School of Talmudic Studies, (declined)
New York State Achievement Award

PROJECTS

Scribe, a tool for automated punctuation tagging of Hebrew Texts	git.io/JUZr4	2020
BRE:IN, a tool for reasoning about gene interaction networks	git.io/JevG0	2019
SQL database backend	git.io/fpYed	2018
Chess Engine in C++ (during high school) ~ 2000 ELO	git.io/fpYvg	2014

SKILLS

Java, C/C++, Python, Pytorch, Tensorflow, SQL, Git, CAD, 3D printing

INTERESTS

Efficient Machine Learning, Reinforcement Learning, Game Theory, Natural Language Processing , Graph Neural Networks