

# Matthew Levin

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## Education

**University of Rochester**, May 2018

Bachelor of Science in Computer Science

Overall GPA: **3.81** (Out of 4.00)

**Activities:** Golden Key International Honour Society, Human Computer Interaction Lab (ROC-HCI), Computer Science Undergraduate Council (CSUG), Intramural Ultimate Frisbee and Soccer

**Courses:** Artificial Intelligence, Algorithms, Web Programming, Linear Algebra with Differential Equations, Probability and Mathematical Statistics, Data Structures, Human Computer Interaction

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## Skills and Interests

**Programming Languages:** Python, Java, JavaScript, Bash, HTML/CSS, OCaml, C/C++, MySQL

**Software and Tools:** NumPy, scikit-learn, Pandas, Git, Node.js, LaTeX, Postman, jQuery, Ajax

**Research Interests:** Machine Learning, Artificial Intelligence, Big Data, Pattern Recognition

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## Projects and Publications

**Playlist Analyzer** (*Winter 2018*)

- Analyzes Spotify users' top 100 tracks to create a shared playlist suited for a group activity, such as studying
- Uses machine learning to generate a playlist of songs tailored to an individual user's music preferences

**Concurrent Shortest Paths** (*Fall 2017*)

- Finds shortest paths in a graph from a source node using a parallelized delta-stepping algorithm in Java
- Achieved nearly three-hundred percent speedup compared to the sequential version of the algorithm

**UR Bus** (*Spring 2017*)

- Website and iOS app to track university shuttles in real time and find optimal routes using a graph algorithm
- Developed a custom API with Node.js utilizing Google Maps API and Transloc API for shuttle information

**Bayesian Inference** (*Spring 2016*)

- Compares inference algorithms on probabilistic graph models in Java for Artificial Intelligence course
- Individually created an exact calculator and several approximation algorithms to comply with larger datasets

T. Sen, K. Hasan, M. Tran, **M. Levin**, Y. Yang, and M. E. Hoque, Say CHEESE: Common Human Emotional Expression Set Encoder and its Application to Analyze Deceptive Communication, *IEEE International Conference on Automatic Face and Gesture Recognition*, Xi'an, China, May 2018.

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## Experience

**Undergraduate Researcher**

June 2017 – May 2018

Human Computer Interaction Lab

Rochester, NY

- Apply machine learning techniques to perform automated lie detection from audio and video
- Use hidden Markov models and clustering algorithms to recognize patterns in human conversation
- Deploy code on BlueHive supercomputing cluster to train and test models on massive dataset

**Information Technology Consultant**

June 2016 – May 2018

Simon School of Business

Rochester, NY

- Assist graduate students and professors in troubleshooting technical problems and configuring devices
- Automated printer configuration process for students by developing a one-click application in AppleScript

**Teaching Assistant**

August 2017 – December 2017

Computer Science Department

Rochester, NY

- Mentor project teams in designing and building products to meet a specific consumer need
- Grade assignments and hold weekly office hours for Human Computer Interaction course

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**Other Activities:** Eagle Scout (Boy Scouts of America), volunteer tutor, summer music instructor, and avid guitarist and bassist