

# Joseph Glanzberg

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## EDUCATION

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**Carnegie Mellon University**

**Pittsburgh, PA**

**B.S. IN COMPUTATIONAL NEUROSCIENCE**

**August 2017 – May 2021**

- GPA: 3.5/4.0, Minor: Business Administration
- Relevant Coursework: Neural Data Analysis, Neural Computation, Neural Signal Processing, Principles of Imperative Computation, Introduction to Statistical Inference
- Involvement: Academic Review Board, Student Advisory Council, Student Senate, Joint Funding Committee, University Disciplinary Committee, Alpha Epsilon Pi Fraternity

## WORK EXPERIENCE

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**National Institutes of Health, United States Government**

**Baltimore, MD**

**POST-BACCALAUREATE RESEARCH FELLOW**

**August 2021 – Present**

- Architected and implemented recurrent neural networks (RNNs) using computer vision to extract simple behavioral motifs in mice and rats to further understand addiction
- Trained object detection model written in Python using Tensorflow to extract key events from experimental videos to confirm the alignment of operant output and neural recordings using shared supercomputing cluster running Slurm
- Modeled position, velocity, and posture to correlate repeated behaviors with neural signals
- Researched and published article comparing the various machine learning (ML) methodologies used to estimate and analyze animal behavior

**BetterTrader.co**

**Jerusalem, IL**

**FOREIGN EXCHANGE ANALYST**

**June 2019 – August 2019**

- Developed automated systems to generate trade recommendations for retail investors
- Investigated outcomes of computer-generated trade ideas based on macro-economic trends
- Designed and implemented new UI/UX which resulted in a 30% increase in client subscriptions

## PERSONAL PROJECTS

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**Quince - Speech Recognition Bot**

- Trained speech to text network to automate recurring tasks, integrated with various APIs (Google Calendar, Trello, Gmail, Excel)
- Recorded and trained model on audio from myself to increase accuracy by 60% when compared to an open-source model

**Neural Signal Analysis Projects**

- Researched and implemented custom K-means algorithm to segregate neural signals
- Developed EM algorithms to validate clusters of neural signals
- Used principal component analysis to process neural data into a comprehensible format

## SKILLS & TECHNOLOGIES

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- **Programming:** Python (Pandas, PyTorch, ONNX, TensorFlow, Jupyter, Matplotlib), C, Bash
- **Technologies:** Linux, Slurm Workload Manager, Matlab, DataCat, t, Git, Microsoft Office
- **Languages:** English (Native), Hebrew (Conversational), Spanish (Conversational)