Maxime Kawawa-Beaudan

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Education

M.S. Electrical Engineering and Computer Science Aug. 2021 - May 2022 (expected)
University of California, Berkeley, Berkeley, CA
- Intended Research Area: Deep-Learning Based Melanoma Segmentation

B.A. Computer Science, Minor in Creative Writing Aug. 2017 - Dec. 2020
University of California, Berkeley, Berkeley, CA **GPA: 3.9/4.0**
- Honors: Magna Cum Laude
- Coursework: Machine Learning, AI, Probability Theory, Efficient Algorithms, Convex Optimization, Robotics, Computer Architecture, Data Structures, Linear Algebra

Professional Experience

J.P. Morgan, New York, NY Jun. 2021 - Aug. 2021
Summer Analyst – Research
- Designed AI models to predict relevant market movements from sparse datasets for the U.S. Rates Strategy team (Corporate and Investment Bank).
- Contributed to, copy-edited and laid out mid-week, end-of-week, and daily publications for institutional clients and internal partners.
- Automated data collection and aggregation methods, producing higher resolution insights for researchers and improving data accessibility.

Berkeley Artificial Intelligence Research (BAIR), Berkeley, CA Apr. 2020 - Present
Researcher
- Investigating deep learning methods for image compression in the Video and Image Processing Lab. Building hierarchical autoencoders with PyTorch and training end-to-end on AWS to jointly optimize for recognition, distortion, and compression performance. Contributed 98% of lines of code in repository.
- First author on manuscript in review. Additionally authored a proposal for a Sony Focused Research Award, aggregating preliminary results in a bid for up to $150,000 in funding.

Salesforce, Inc., San Francisco, CA Jun. 2019 - Aug. 2019
Software Developer Intern
- Researched scalable anomaly detection algorithms with the data science team for Salesforce's AI group, Einstein. Developed a novel approach for streaming data to identify actionable irregularities; used Scala and Spark on AWS clusters. Proposed method helped team launch the Messaging Insights feature, used by thousands of marketers worldwide.

Dahlia Lights, Millbrae, CA (acquired) May 2018 - Aug. 2018
Software Developer Intern
- Worked as fifth employee at a startup developing AI-powered home control systems. Designed and built entire back end for automated data collection and user habit analysis.

Publications

Recognition-Aware Learned Image Compression Under Review at ICIP 2021
Maxime Kawawa-Beaudan, Ryan Roggenkemper, Avideh Zakhor.
- We jointly learn compression and recognition networks to optimize a rate-distortion loss alongside a task-specific loss. We achieve as much as 26% higher recognition accuracy at equivalent bitrates compared to state-of-the-art traditional compression methods. Preprint.

Projects

bobROSS, EECS C106A Oct. 2020 - Dec. 2020
Final project for upper-division robotics: Bots Overcoming Boundaries (with) ROS Support.
- Shared robotic simulation space in augmented reality. Project website here.

Suture Thread Tracking System, AUTOLab Feb. 2019
Initial research experience with DaVinci surgical robots in BAIR's Automation Lab.
- System to segment and model thin surgical threads in images of robotic workspace.

Activities

Published Author, (Self-Directed) Aug. 2014 - Present

Author of 50+ short stories

- Published the short story "Waiting for Fireworks" in *Glimmer Train* literary journal (publishes 40 stories out of 40,000+ submissions per year) as first place contest winner. Published the accompanying essay "A Constitution for a Young Artist" in the same issue (Fall 2018).
- Finalist in the National YoungArts Foundation talent contest (2017). Studied in master classes from renowned authors. Awarded a $3,000 merit-based grant to fund further work.
- Finalist in *New Millenium Writings* Writing Awards 42 (2016).

Peer Tutor, CS 370 Aug. 2018 - Dec. 2018

One-on-one instructor with Berkeley pedagogy course, Intro. to Teaching Computer Science.

- Taught 20+ students enrolled in CS61A (computer programs) and CS61B (data structures).

Skills

Languages: Python, Java, Scala, C; **Platforms:** AWS, Google Cloud; **Frameworks:** Apache Spark, PyTorch; **Tools:** NumPy, Pandas, OpenCV, matplotlib, Jupyter notebooks, Unix
Natural Languages: English (native), French (fluent)