Max Litster

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Education

University of California, Berkeley   *Berkeley, CA*

BACHELOR OF ARTS IN COMPUTER SCIENCE, GPA: 3.933/4.0   *August 2018 to May 2022*

- **Completed Coursework**: Efficient Algorithms and Intractable Problems, Signals and Systems, Linear Algebra, Discrete Mathematics and Probability Theory, Data Structures, Machine Structures, Designing Information Devices and Systems, The Structure and Interpretation of Computer Programs
- **Current Coursework**: Introduction to Artificial Intelligence, Optimization Models in Engineering, Sketching Algorithms*   ** = graduate*

Experience

UC Berkeley College of Enginnering   *Berkeley, CA*

UNDERGRADUATE STUDENT INSTRUCTOR, MACHINE STRUCTURES   *Jun. 2020 - Aug. 2020*

- One of fifteen teaching assistants for introductory course in computer architecture and systems programming covering C programming, assembly language, pipeline CPU design, caching, virtual memory, and parallelism, among other topics
- Responsible for holding remote recitation sections, office hours, and labs twice a week
- Wrote, developed, and debugged worksheet walkthroughs, exam questions, and programming projects for a summer class of over 300 students.

Berkeley MikGroup   *Berkeley, CA*

RESEARCH ASSISTANT   *Jan. 2020 - PRESENT*

- Worked under Professor Miki Lustig to develop high-level examples of using BART: the Berkeley Advanced Reconstruction Toolbox, a C-based library for high-performance computational MRI.
- Created interactive tutorials demonstrating how to perform basic 2D image reconstruction, coil compression, and basic array and image manipulation in BART, and presented demos at a webinar given to over 250 professionals in the field.

CAHL Lab   *Berkeley, CA*

UNDERGRADUATE RESEARCHER AND FULL-STACK DEVELOPER   *Sep. 2019 - PRESENT*

- **Current Research:** Evaluating state-of-the-art methods in network embedding to develop distributed representations of academic faculty based on the citation relationships between research publications.
- Using distributed representations as well as faculty-provided research descriptions to extract latent search keywords from the embedding space to enhance a student-facing search interface.
- Writing complimentary pyTorch implementations of network embedding algorithms.
- **Development Work:** Full-stack engineer for AskOski [askoski.berkeley.edu], UC Berkeley's course guidance system.
- Expanded course-search coverage to include data on faculty research and helped centralize several features under a singular system-wide search interface.
- Work closely with the data pipeline designed to query campus API's and use a series of RNN, Transformer and Regression-based models to generate intelligent course recommendations and academic plan suggestions for students.

Talla   *Boston, MA*

DATA SCIENCE INTERN   *Jun. 2019 - Aug. 2018*

- Consolidated and refactored common text pre-processing steps (text normalization, stopword removal, tokenization) throughout a large codebase.
- Integrated a classifier trained to identify procedural content into the NLP pipeline.
- Profiled the effectiveness of off-the-shelf NER models (those of spaCy, flair, and MITIE) on large customer datasets to determine the most effective baseline model for augmenting the product's Named Entity Recognition system.
- Trained an additional validity classifier and introduced a series of data-driven heuristics to drastically reduce noise and boost precision throughout the process of Named Entity Recognition.
- Gained strong proficiency in spaCy, NLTK, numpy, and pandas, and experimented with deep learning NLP frameworks in pyTorch.

Skills

Languages and Frameworks   Python (pyTorch, sklearn, spaCy, pandas, nltk, Flask), C, Bash, Angular

Interests

Long-Distance Running, Reading, Live Music, Mathematics, Improv Comedy