Moulinrouge Kaspar

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EDUCATION

- **Massachusetss Institute of Technology** — Cambridge, MA
  Bachelor of Science in Electrical Engineering and Computer Science; GPA: 4.6/5.0 — *July 2019 - June 2023*

  Relevant Courses: *Physics, Statistics, Linear Algebra, Circuits and Differential Equations, Nanofabrication and technology, Circuits, Discrete Mathematics, Algorithms, Data Structures, Machine Learning, Corporate Financial Accounting, Microeconomics, Macroeconomics, Econometrics, Natural Language Processing, Cognitive Computation, Robotic Manipulation*

  Clubs: *Vice President of MIT UNICEF, Treasurer of the African Sutdent Association, Marketing Director of Sloan Business Club, Lead of the Mental Health and Wellness Team for Design For America, Executive Board Member For the Women in EECS at MIT, Member of the MIT HKN (Eta Kappa Nu) Honor Society*

- **Massachusetss Institute of Technology** — Cambridge, MA
  Masters of Engineering in Computer Science; GPA: 4.6/5.0 — *TBD*

SKILLS SUMMARY

- **Languages:** Python, PHP, C/C++, JavaScript, TypeScript, SQL, JAVA
- **Frameworks:** Scikit, NLTK, TensorFlow, Django, NodeJS, OpenCV
- **Tools:** Kubernetes, Docker, GIT, PostgreSQL, MySQL, SQLite
- **Skills:** Android Development, iOS, Compiler Development

EXPERIENCE

- **Meta** — Menlo Park, CA
  Software Engineering Intern — *May 2022 - Sep 2022*
  - **AR/VR**: Worked as part of the Facebook Avatar team on a full-stack project where I developed the search feature for their Avatar Shop feature and developed the search algorithm using Natural Language Processing by leveraging PHP and Javascript.

- **CYN AI** — Cambridge,MA
  Technical Lead — *October 2021-May 2022*
  - **Natural Language Processing**: Worked with a startup funded by Harvard Business School and MIT where I created a chrome extension to conduct sentiment analysis on political newspapers using NLTK and the NaiveBayes Machine Learning algorithm.

- **Daedalus** — Cambridge,MA
  Co-Founder and Technical Lead — *October 2021-May 2022*
  - **Back-end Development**: Created a Scratch like tool to allow allow amateur traders to imitate some basic quantitative trading strategies by mimicking some of the mathematical operations to create trading bots and this startup was accepted into prestigious Tech Stars accelerator this past summer

- **Amazon** — Seattle,WA
  Software Engineering Intern — *May 2021-September 2021*
  - **Systems Engineering**: Worked as a member of the Inclusive Tech Team where I developed a feature using Java that would be used by members of the team to set up an approval workflow. The feature acts an automated approval process for the team and has improved transparency and flexibility for both the program managers and the developers of team.

- **Gridspace** — Los Angeles, CA
  Software Engineering Intern — *May 2020-September 2020*
  - **Signal Conversion**: Programmed a natural language processing application using Django to classify the conversation captured by the application I engineered which was later integrated with the company's core application and subsequently deployed to cloud.

PROJECTS

- **Knomad AI (NLP, Search Engine, Multimedia Processing)**: Developed a tool that would allow professors to run natural language processing over classroom text, to make the most of existing data and provide the classroom with valuable insights into their contributions. This project has been funded upto $10000 by MIT Sandbox. Tech: Python, NodeJS, Selenium, TensorFlow

- **Optimizing Cues for Human Depth Perception in Physical Environment (Computer Vision)**: I focused on developing a large-scale, 2D visual artwork that activates human depth perception using a range of monocular cues, such as perspective and sharp (or gradient) edges of bright and dark. Tech: Python, OpenCV

- **Optimized Malloc (Distributed Computing)**: Designed and created an optimized thread-safe memory allocator for a class project to optimize on performance and reduce fragmentation Tech: C++

- **Parallel Computing (Compilers)**: Created a compiler by utilizing a strongly static single assignment based intermediate represation form that focused on splitting into multiple tasks so that the computer can run at the same time which was modeled after ParaScope. Tech: Java

RESEARCH AND EXTRA CURRICULARS

- **Undergraduate Researcher at the MIT Energy Initiative**: Developed cost-effective methods to deliver electricity in developing countries from solar panels with Doctor Robert Armstrong in Tanzania by running an analysis on the geo-locations of a set of predetermined villages and determining the maximum number of possible micro-grids per village with a modified BFS algorithm on the photovoltaic outputs to be supplied to each nearby home.

- **Undergraduate Researcher at the for AI and BioSynthesis**: The project focuses on the creation of generative models i.e JTVAE for the development of antibiotics for Gonorrhea by utilizing learning on collected data provided by the Collins Lab to generate new molecules that could potentially change people's lives.

- **Undergraduate Researcher at the MIT Department of Material Science**: Working with Professor Jeehwan Kim on building a neural networks to assess and predict the behavior of neuromorphic materials engineered in his lab when placed receiving electrical power impulses.

- **Undergraduate Researcher at the MIT Institute for Data, Systems, and Society**: Designed the development of a digital twin for a mobile plant cultivation unit (MPCU) that would be implemented in Sub-Saharan Africa where a compact cultivation system that enables the production of fresh food particularly interested in designing, constructing.

- **Teaching Assistant for an Intro To Machine Learning Course**: Helping undergraduate and graduate students in weekly machine learning simulations that are targeted to increase the material learnt through lecture.