

# Mark Zimmerman

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**Summary:** Passionate, dedicated, and technical individual pursuing a Machine Learning Engineer role to reflect not the roles pursued in the past, but the innovative way those roles were approached.

## Projects:

### PERSONAL

Jan 2024 – Present

#### *Deepchess*

- Constructed a PyTorch based, deep learning model with automated feature engineering.
- Compiled and preprocessed millions of data points to support training on relevant examples provided by experts.
- Designed a distributed system providing a scalable training process with ray.
- Maintained an easily upgraded training environment with git version control.

### GEORGIA INSTITUTE OF TECHNOLOGY

Aug 2021 – Dec 2023

#### *Object Detection on BDD100k dataset*

- Implemented and trained state of the art object detection (DINO) using PyTorch architecture.
- Cooperated with a team to support DINO implementation with foundational models.
- Collaborated to solve problems of training limitations (e.g. memory and compute time limitations), diagnostics (e.g. deep learning model information propagation), and performance.
- Scheduled training via Google cloud computing services

#### *OpenAI's Gym based Football Game*

- Implemented the training pipeline of a Multi-agent reinforcement learning environment.
- Documented iterative improvement of the training algorithm by an ablation study.
- Analyzed agent ability by visualization of converging learning curves and improved teamwork metrics.

#### *Raven Progressive Matrix Solver*

- Engineered an AI agent able to solve RPM problems of size 2x2 and 3x3.
- Evaluated computer vision techniques and statistical analysis, then used ensemble learning and metacognition to blend the approaches and augment the agent's understanding of the problem.

## Work Experience:

### UNIBAIL RODAMCO WESTFIELD

Oct 2013 – Jul 2021

Los Angeles, CA

#### *Senior Recoverable Revenue Accountant | Jan 2017 – Jul 2021*

- Designed an innovative system to automatically provide configuration of lease terms in accounting software for 70% of leases, increasing productivity.
- Built a data analysis tool to identify redundancy, decreasing budgeting work by 20%.
- Compiled and preprocessed thousands to millions of data points from numerical and textual sources to support analysis in daily and ad hoc workload.
- Collaborated with IT to develop and test process improvements.
- Communicated technical results of multi-million dollar business decisions plainly for executive management.

#### *Recoverable Revenue Accountant | May 2015 – Dec 2016*

- Managed transactional and contractual data for 1000s of tenants.
- Supported Accounts Receivable, Center Management, Regional Analyst, Regional Finance Directors, and Shared Services with requests and questions relating to Recoverable Revenues.

#### *AR Specialist | Oct 2013 – May 2015*

- Maintained 1000s of mall tenants' ledger's accuracy through thorough research and analysis.
- Communicated discrepancies in billings and payments received intelligibly and diplomatically.

**Education:**

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA

- Completed Master's in Computer Science - Machine Learning
- GPA: 4.0/4.0

EL CAMINO COLLEGE

Torrance, CA

- Attended Supplementary Computer Science and Technology classes
- Preparation for Master's program - no credential obtained
- GPA: 4.0/4.0

UNIVERSITY OF CALIFORNIA, LOS ANGELES EXTENSION

Los Angeles, CA

- Completed Certificate of Accounting
- GPA: 3.94/4.0

UNIVERSITY OF CALIFORNIA, RIVERSIDE

Riverside, CA

- Completed Bachelor of Science in Mathematics
- GPA: 2.78/4.0

**Skills:**

**Programming Languages:** Python, C++, Java, C#

**Libraries:** NumPy, PyTorch, Scikit-learn, Matplotlib, Pandas, Pillow, OpenCV, Ray

**Technologies:** VS Code, Git, Anaconda, Docker, Jupyter Notebooks, LaTeX, Linux, Microsoft Office

**Studies:** Search Algorithms, Artificial Intelligence, Supervised Learning, Unsupervised Learning, Deep Learning, Reinforcement Learning, Algorithm Analysis