Mark Zimmerman

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**Projects:**

| GEORGIA INSTITUTE OF TECHNOLOGY  Atlanta, GA | Aug 2021 – Present |
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*OpenAI’s Gym based Football Game*

* Multi-agent reinforcement learning exploration.
* Ablation study integrating concepts of COMA (Counterfactual Multi-Agent) methods with PPO (Proximal Policy Optimization).

*OpenAI’s based Lunar Lander*

* Single-agent reinforcement learning exploration.
* Study of hyperparameter impact for Q-learning agent with replay memory, using neural net as a Q approximator.
* Opportunity to gain experience in efficient use of hardware including multiprocessing with CPU and committing vectorized environment, vectorized replay memory, and neural net training calculations on the GPU.

*Raven Progressive Matrix Solver*

* Knowledge-based artificial intelligence exploration.
* Pattern recognition agent, rivaling human capability, using techniques of computer vision, statistics, ensemble learning, and metacognition.

**Work Experience:**

| UNIBAIL RODAMCO WESTFIELD  Los Angeles, CA | Oct 2013 – Jul 2021 |
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*Senior* *Recoverable Revenue Accountant | Jan 2017 – Jul 2021*

* Create and expand on existing tools in excel to provide for faster, more accurate analysis, review, and calculation processes. Provide documentation and training to support the utilization of these 10+ tools.
* Provide training for all job facets from the technical to the analytical for 50+ persons since 2017, including new team members, entire departments after reorganization, and contracted parties abroad.
* Prepare analyses and summaries for upper and executive management to inform multi-million dollar business decisions.
* Engage IT in the development and testing of process improvements, reducing manual workloads by 100+ hours.
* Engage the legal department in considerations for policy improvements impacting 1,000s of tenants.
* Lead various ad hoc projects providing expectations for junior members, reviewing their work, and facilitating the adoption of the project’s results by the business.
* Review cycle work done for 40+ properties and 1,000s of abstractions of tenant agreements into JD Edwards E1 performed by junior team members.
* Perform all described below for “Recoverable Revenue Accountant”.

*Recoverable Revenue Accountant | May 2015 – Dec 2016*

* Abstract, and maintain, the appropriate expense recovery terms into JD Edwards E1 from dozens of tenant agreement forms (lease, amendment, easement, etc.) for 1,000s of tenants.
* Provide primary support and expertise in researching, resolving and responding to 100s of tenant correspondence related to Recoverable Revenues via a JIRA ticketing system.
* Assist Center Management, Regional Analyst, Regional Finance Directors, and Shared Services with requests and questions relating to Recoverable Revenues.
* Responsible for the calculation of Recoverable Revenues for 1000s of tenants each for of 3 cycles (Reconciliation, Forecast, Recharge).
* Achieve metric targets as appropriate.
* Identify and implement process improvements.
* Attend and participate in team meetings.
* Responsible for assisting the team on ad hoc projects, reports, analysis, and other assignments.

*AR Specialist | Oct 2013 – May 2015*

* Maintain 1000s of mall tenants’ ledger’s accuracy through thorough research and analysis.
* Communicate discrepancies in billings and payments received intelligibly and diplomatically.
* Collaborate interdepartmentally and with peers to achieve the above for over a thousand tenants at once.

**Education:**

| GEORGIA INSTITUTE OF TECHNOLOGY   * Ongoing Master’s in Computer Science - Machine Learning * Expected graduation: December 2023 * Current GPA: 4.0/4.0 | Atlanta, GA |
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| EL CAMINO COLLEGE   * Attended Supplementary Computer Science and Technology classes * Preparation for Master’s program - no credential obtained | Torrance, CA |
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| UNIVERSITY OF CALIFORNIA, LOS ANGELES EXTENSION   * Completed Certificate of Accounting | Los Angeles, CA |
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| UNIVERSITY OF CALIFORNIA, RIVERSIDE   * Studied Computer Science for a year * Completed Bachelor of Science in Mathematics | Riverside, CA |

**Skills:**

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

**Libraries:** NumPy, PyTorch, Ray.RLLib, Sklearn, MatPlotLib, Gym, Pandas, Pillow, OpenCV

**Technologies:** Visual Studio, VS Code, Git, Anaconda, Docker, Unity, Jupyter Notebooks, CUDA, LaTex, Inkscape, Linux, Windows, Microsoft Office

**Studies:** General Artificial Intelligence, Game AI, Knowledge-based AI, Reinforcement Learning, General Machine Learning, Human Computer Interaction, AI Ethics, Human Computer Interaction