

# Michael Cerny Green

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Website: <http://mikecgreen.com> | Google Scholar: [Michael Green](#)

## EDUCATION:

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**New York University**, New York, NY

*PhD – Artificial Intelligence*, GPA: 3.83

*June 2022*

**Lehigh University**, Bethlehem, PA

*B.S. – Computer Science and Business, B.A. – Classical Civilizations*, GPA: 3.68

*May 2016*

**Temple University**, Rome, Italy

Study Abroad Semester – *Italian Art*, GPA: 3.59

*Fall 2014*

## PROFICIENCIES AND SKILLS:

**AI/ML:** Pytorch, Pytorch-Lightning, Evolutionary Algorithms, Tree Search, Deep Learning, Reinforcement Learning

**MLOps/Dev:** Databricks, MLFlow, Neptune

**Cloud/Infra:** AWS (S3, Batch, EC2, DynamoDB, Lambda, Cognito), Docker, Kubernetes

**Languages/Libraries:** Python, C#, Java, Javascript, HTML, Scala, Pandas/Numpy, Plotly, React, Flask

## WORK EXPERIENCE:

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**Hitachi Solutions America**, Remote

*Product Management*

*August 2022-Now*

Responsible for product management of 35+ person development team building the Empower Data Platform.

- Product management of a multi-million-dollar annual budget for a self-service data orchestration product built on Azure and Databricks.
- Leading product management team through user research and buildout of solutions for data streams and artificial intelligence workflows.
- Creation, tracking, and accountability of quarterly OKRs to measure success and achieve product goals.
- Top-of-funnel demo creation, product pitching, public speaking (Data and AI Summit '23 and '24 speaker), and blogging (1, 2).
- Sales pitches, demos, and contract writing to drive revenue and 50%+ annualized program growth.

**New York University**, Remote

*Adjunct Professor*

*January 2023-Now*

Teaching professor at the Tandon School of Engineering teaching Video Game Design (CS-GY 4553/CS-UY 6553).

**Origen.AI**, Brooklyn, NY

*Artificial Intelligence Engineering*

*November 2018-Feb 2022*

Founding employee of a private, AI-applied technology platform startup developing models for the energy industry.

- Managed and executed platform deployment projects, capturing ~\$300k in revenue in FY 2020, \$1m in FY 2021
- Pitched to investors to close ~\$1m in seed funding in FY 2021.
- Responsible for the creation and maintenance of cloud-agnostic artificial intelligence R&D framework using Pytorch and Pytorch-Lightning, accelerated computing using NVIDIA, containerized with Docker, and written in Python.
- Built a scalable AI/ML research pipeline using Neptune, AWS Batch, and AWS S3 for rapid model training on multi-gpu clusters.
- Peer-reviewed paper detailing a new network paradigm to solve non-linear partially differentiable equations using attention mechanisms and residual calculations (<https://arxiv.org/pdf/2105.07898.pdf>)

**Imbellus, Inc.**, Los Angeles, CA, *AI/ML Engineer*

*May-August 2018*

**PricewaterhouseCoopers**, New York, NY, *Cybersecurity Consultant Intern*

*June-August 2016*

**Lutron Electronics, Inc.**, Coopersburg, PA, *Software Engineering Intern*

*May-August 2015*

## **RESEARCH AND PROJECTS:**

### **Procedural Content Generation**

Automated generation of content using tree search, evolutionary optimization, or machine learning.

- [\[2017\] “Press Space To Fire”: Automatic Video Game Tutorial Generation](#) – Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, and Julian Togelius – EXAG Workshop at AIIDE 2017.
- [\[2018\] Generating Levels That Teach Mechanics](#) - Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Andy Nealen, and Julian Togelius - PCG Workshop at FDG 2018
- [\\*\[2018\] AtDelfi: Automatically Designing Legible, Full Instructions for Games](#) - Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Tiago Machado, Andy Nealen, and Julian Togelius - FDG 2018
- [\[2019\] Intentional Computational Level Design](#) - Ahmed Khalifa, Michael Cerny Green, Gabriella Barros, Julian Togelius - IJCAI 2019
- [\[2020\] Mario Level Generation From Mechanics Using Scene Stitching](#) – Michael Cerny Green, Luvneesh Mugrai, Ahmed Khalifa, and Julian Togelius – CoG 2020
- [\[2020\] Mech-Elites: Illuminating the Mechanic Space of GVG-AI](#) - M Charity, Michael Cerny Green, Ahmed Khalifa, and Julian Togelius - FDG 2020
- [\[2022\] Persona-driven Dominant/Submissive Map \(PDSM\) Generation](#) – Michael Cerny Green, Ahmed Khalifa, M Charity, and Julian Togelius – FDG 2022

### **Automated Gameplaying Agents**

Artificial agents that can play/win/explore.

- [\[2018\] Automated Playtesting with Procedural Personas through Evolution Based MCTS](#) - Christoffer Holmgard, Michael Cerny Green, Antonios Liapis, and Julian Togelius - TOG 2018
- [\[2019\] Two-step Constructive Approaches for Dungeon Generation](#) - Michael Cerny Green, Ahmed Khalifa, Athoug Alsoughayer, Divyesh Surana, Antonios Liapis, and Julian Togelius - PCG Workshop at FDG 2019
- [\[2019\] Evolutionarily-Curated Curriculum Learning for Deep Reinforcement Learning Agents](#) - Michael Cerny Green, Benjamin Sergeant, Pushyami Shandilya, and Vibhor Kumar - RL Workshop at AAAI 2019
- [\[2020\] Bootstrapping Conditional Gans for Video Game Level Generation](#) - Ruben Rodriguez-Torrado, Ahmed Khalifa, Michael Cerny Green, Niels Justesen, Sabastien Risi, and Julian Togelius - COG 2020

### **Analytics and Statistical Analysis**

Analyzing users/players and their behaviors.

- [\[2019\] Automatic Critical Mechanic Discovery Using Playtraces in Video Games](#) - Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Tiago Machado, and Julian Togelius - FDG 2019
- [\[2021\] Game Mechanic Alignment Theory](#) - Michael Cerny Green, Ahmed Khalifa, Philip Bontrager, Rodrigo Canaan, and Julian Togelius - FDG 2020
- [\[2022\] Predicting Personas Using Mechanic Frequencies and Game State Traces](#) – Michael Cerny Green, Ahmed Khalifa, M Charity, Debosmita Bhaumik, and Julian Togelius – WCCI 2022

\*Best Paper Award

25+ published papers available upon request. Please see [Google Scholar](#) for more.

## **ORGANIZATIONAL EXPERIENCE:**

### **Programming Committees**

<i>Foundations of Digital Games (FDG)</i>	2018-2023
<i>Conference on Games (COG)</i>	2019-2022
<i>Procedural Content Generation Workshop at Foundation of Digital Games (PCG)</i>	2019-2022
<i>Portuguese Conference on Artificial Intelligence (EPLA)</i>	2019
<i>User Experience of Artificial Intelligence (UXOF AI)</i>	2019, 2020, 2021

### **Scientific Journal Reviewer**

Transactions on Games (TOG)	2018-2022, 2024
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Local Co-Chairman of the AI for Games Summer School

2019