# Michael Cerny Green

New York City, New York * (901)-606-2270 * mcgreentn@gmail.com
LinkedIn: www.linkedin.com/in/michael-cerny-green
Github: https://github.com/mcgreentn
Website: http://mikecgreen.com

## EDUCATION:

**New York University,** New York NY
*PhD – Artificial Intelligence and Video Games* - GPA: 3.83 — May 2021

**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

## RESEARCH AND PROJECTS:

**Automatic Video Game Tutorial Generation** *July 2017-Present*

Using a novel graph-based rule representation for video game rules, creating AI that can generate tutorials for any video game, starting with games in the GVGAI framework.

- *Publication*: [2017] "Press Space To Fire": Automatic Video Game Tutorial Generation – Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, and Julian Togelius – Published at EXAG 2017.
- *Publication*: [2018] Generating Levels That Teach Mechanics - Michael Cerny Green, Ahmed Khalifa, Gabriella A. B. Barros, Andy Nealen, and Julian Togelius - Published at PCG Workshop at FDG 2018
- ***Publication*: [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 - Published at FDG 2018
- *Publication*: [2019] Intentional Computational Level Design - Ahmed Khalifa, Michael Cerny Green, Gabriella Barros, Julian Togelius - Published at IJCAI 2019

**Generative Design in Minecraft (GDMC)** *January 2017-Present*

Creating algorithms which can adapt to given terrain to generate entire cities within the video game Minecraft (Mojang 2009).

- *Publication*: [2018] Generative Design in Minecraft (GDMC), Settlement Generation Competition - Christoph Salge, Michael Cerny Green, Rodrigo Canaan, Julian Togelius - Published at PCG Workshop at FDG 2018
- *Publication*: [2019] Generative Design in Minecraft: Chronicle Challenge - Christoph Salge, Christian Guckelsberger, Michael Cerny Green, Rodrigo Canaan, Julian Togelius - Published at ICCC 2019
- *Publication*: [2019] Organic Building Generation in Minecraft - Michael Cerny Green, Christoph Salge, Julian Togelius - Published at PCG Workshop at FDG 2019

**Automatic Video Game Rule Generation** *January 2017-December 2017*

Using evolutionary techniques to generate new sets of rules for video games within the General Video Game Artificial Intelligence Framework (GVGAI). Also assisted in the creation of the rule generation competition track for GVGAI.

- *Publication:* [2017] General Video Game Rule Generation – Ahmed Khalifa, Michael Cerny Green, Diego Perez-Liebana, and Julian Togelius – Published at CIG 2017.

**Automatic Video Game Play-testing Agents** *September 2016-December 2018*

Using evolved Monte Carlo Tree Search AI and player modeling to automatically play-test video game levels for Minidungeons 2, a 2-D rogue-like, dungeon crawler.

- *Publication*: [2018] Automated Playtesting with Procedural Personas through Evolution Based MCTS - Christoffer Holmgard, Michael Cerny Green, Antonios Liapis, and Julian Togelius - Published in TOG 2018
- *Publication:* [2019] Two-step Constructive Approaches for Dungeon Generation - Michael Cerny Green, Ahmed Khalifa, Athoug Alsoughayer, Divyesh Surana, Antonios Liapis, and Julian Togelius - Published at PCG Workshop at FDG 2019

**Open Data-Sourced Procedural Adventure Games** *September 2016-December 2018*

Creating murder-mystery game experiences using open data as a source, and studying the correlation between learning and fun through these experiences versus reading a Wikipedia page directly.

- *Publication*: [2018] Who Killed Albert Einstein? From Open Data to Murder Mystery Games - Gabriella A. B. Barros, Michael Cerny Green, Antonios Liapis, and Julian Togelius - Published in TOG 2018
- *Publication:* [2018] Data Agent - Michael Cerny Green, Gabriella A.B. Barros, Antonios Liapis, and Julian Togelius - Published at FDG 2018
- ***Publication*: [2018] Data-driven Design: A Case for Maximalist Game Design - Gabriella A. B. Barros, Michael Cerny Green, Antonios Liapis, and Julian Togelius - Published at ICCC 2018

*Best Paper Award **Best Paper Nomination

## *WORK EXPERIENCE:*

**Origen.AI**, New York, NY *November 2018-Present*

AI Researcher

~Artificial Intelligence applied technology platform startup. Developed prediction technology

**Imbellus, Inc**, Los Angeles, CA *May-August 2018*

*AI/ML Engineer*

~25 employee personal assessment startup. Worked on a 4-employee team doing research and development, specifically involving tree search, evolutionary strategy, and reinforcement learning.

**PricewaterhouseCoopers,** New York, NY *June-August 2016*

*Cybersecurity Consultant Intern*

200,000+ employee audit/assurance/advisory partnership company. Worked as a part of a 5-employee team specializing in cybersecurity for hospital, pharmaceutical, and health insurance companies. Drafted 25+ standards for clients documenting protocol for closing security vulnerabilities. Also created protocols for possible crises that may arise, in case of a security breach.

**Lutron Electronics, Inc.,** Coopersburg, PA *May-August 2015*

*Software Engineering Intern*

Reference: Todd Anderson, Software Engineer – tanderson@lutron.com

Private, 200+ employee electronics company specializing in aesthetic light control. Worked as a part of a 25-employee team on the Caseta Smart Bridge, which enables users to control Lutron dimmers and products with their smartphone. Using the Google server language known as GO, developed automatic error log email system to streamline customer support and responsiveness. Constructed foundation for the beginnings of third-party software integration (starting with Google Nest, the smart-home thermostat).

**Tri-Champion Development,** Bethlehem, PA *June 2014-May 2016*

*Founder*

Private, 4-person video game development group. Spent 350+ hours managing the creation of the Stay Alive series, a pair of spaceship shooter games, which collectively have more than 500 downloads on the Google Play Store. Participated in the Global Game Jam (January 2015), a 72 hour mobile video game creation contest which resulted in Kairos Manor, a thriller puzzle game. Competed in mobiLehigh, Lehigh University's own mobile video game creation contest. Produced Cubes, a 3d reflexive dodging game, which won the *"People's Choice Award"* at mobiLehigh, out of 25 games.

**FedEx Corporation – FedEx Services,** Memphis, TN *June – August 2014*

*IT Information Security Intern*

Reference: Kassaundra Sanders, Director of IT Ops – kesanders@fedex.com

Public, 325,000+ employee shipping company. Worked as a part of a 5-employee IT risk assessment team. Introduced a COBIT-framework template to more easily compute and manage company-wide risk based off Ernst & Young risk assessments, cutting down the hours to gauge company-wide risk from 4 months to just 2 weeks. Developed an easy-to-use survey to assess vendor engagement risk, enabling managers to easily extract and analyze third-party risks.

**Retrans, Inc. Precision Logistics,** Memphis, TN *May - July 2013*

*IT Software Development Intern*

Reference: Dr. Michael Bartz, CIO – mbartz@re-trans.com

Private, 100+ employee transportation-logistics company. Worked as a part of the IT team to strengthen the web framework system, by building an automatic, updating zip code-database program in Django, a high-level web framework for Python. Collaborated on the creation of database structures and how to manage them with the CIO.

## ORGANIZATIONAL EXPERIENCE:

**Programming Committees**

| | |
|---|---|
| *Foundations of Digital Games (FDG)* | 2018, 2019 |
| *Conference on Games (COG)* | 2019 |
| *Procedural Content Generation Workshop at Foundation of Digital Games (PCG)* | 2019 |
| *Portuguese Conference on Artificial Intelligence (EPIA)* | 2019 |
| *User Experience of Artificial Intelligence (UXOFAI)* | 2019 |

**Other**

Local Co-Chairman of the AI for Games Summer School 2019