

# Abhijeet Krishnan

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<https://github.com/AbhijeetKrishnan>

## Education

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- **North Carolina State University** Raleigh, NC, USA  
*PhD, Department of Computer Science* Jan 2018 - present
  - Relevant courses: Introduction to Game Engine Design, Advanced Topics in Machine Learning, Experimental Statistics for Engineers I
- **North Carolina State University** Raleigh, NC, USA  
*Master of Science in Computer Science (en-route), Department of Computer Science* Jan 2018 - Dec 2020
- **Visvesvaraya National Institute of Technology** Nagpur, MH, India  
*Bachelors of Technology, Computer Science and Engineering* Aug 2013 - May 2017
  - Relevant courses: Statistics and Optimization Techniques, Artificial Intelligence, Neuro-fuzzy Techniques

## Work Experience

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- **Principles of Expressive Machines (POEM) Lab** Raleigh, NC, USA  
*Graduate Research Assistant* Jan 2019 - Dec 2019
  - **Advisor**: Dr. Chris Martens
  - Investigating rule-based models for modeling players of games which account for player mental models. We aim to explain and predict player behavior using rule-based player models.
- **Knexus Research Corp.** National Harbour, MD, USA  
*AI Intern* June 2019 - Aug 2019
  - Designed and developed a system for generating children's stories.
  - Invented a story graph structure to generate infinitely varying plots from a bank of mini-plots.
  - Used an automated planning tool for narrative generation.
- **Goldman Sachs** Bengaluru, KA, India  
*Summer Employee* May 2016 - Aug 2016
  - Developed and tested a patch for a bug in a 1500+ line C++ codebase.
  - Developed a real-time statistics monitoring tool for internal business processes.
  - Developed an automation script as part of an intra-division hackathon.

## Publications

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- **Krishnan, Abhijeet**, Aaron Williams Aaron Williams, and Chris Martens. "Towards Action Model Learning for Player Modeling." *Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. Vol. 16. No. 1. 2020.
- **Krishnan, Abhijeet** and McAllister, David F. "Stereo Pair Colorization Using Exemplar-based Techniques" Unpublished manuscript, North Carolina State University, Raleigh, NC.

## Academic Service and Involvement

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- **Reviewing and Program Committee Membership**
  - AAAI Experimental AI in Games, AIIDE Workshop 2020
  - IEEE Symposium Series on Computational Intelligence 2020
  - IEEE Conference on Games 2019-20

## Academic Projects

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- **Player Modelling using Gameplay Video Classification** Jan 2019 - Apr 2019  
*Artificial Intelligence II, CSC 720*
  - Designed and trained an ML model to classify gameplay videos based on player behaviour.
  - Developed a classifier based on a retrained Inception v3 ConvNet followed by an LSTM in Tensorflow.
  - Trained and tested the model on the Google Colab platform.
  - Achieved a test accuracy of 93%.
- **Level Generation using ASP for Laserverse** Oct 2018 - Dec 2018  
*Generative Methods for Game Design, CSC 791*
  - Designed a level generator for a puzzle game.

- Used Answer Set Programming to model game rules.
- Performed a quantitative evaluation of the expressive range of the generator.

## Skills

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**Languages:** Python, C, C++, Javascript, bash, PDDL

**Applications:** git, gdb, clingo

**Libraries:** TensorFlow

## Activities and Leadership

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- **Competitive Coding** Aug 2015 - present
  - Within top 2% in India on Codechef, within top 5% in India on Codeforces
  - Winner of Codebreak 2016, an internally held coding contest for interns at Goldman Sachs.
- **Literary and Magazine Affairs Secretary** Nagpur, MH, India  
*Visvesvaraya National Institute of Technology* Aug 2016 - May 2017
  - Recruited and led a team of student designers and writers to produce the annual institute magazine, Insight 2017
  - Planned and organized multiple annual institute events, such as Freshers '16 and Institute Gathering '17
- **Training & Placement Affairs Coordinator, CSE** Nagpur, MH, India  
*Visvesvaraya National Institute of Technology* Aug 2015 - May 2017
  - Organized skill-building and expert talks for fellow students.
  - Assisted 7+ companies with their on-campus hiring process.