

# ANURAG SARKAR

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CONTACT INFORMATION	440 Huntington Avenue, Dungeon of Depression a.k.a Lair of Loneliness a.k.a 302 West Village H, Boston, MA 02115	+1-857 316 6556 <code>sarkar.an@husky.neu.edu</code>
EDUCATION	<b>Northeastern University</b> <ul style="list-style-type: none"><li>• Ph.D. (<i>in progress</i>), Computer Science</li></ul> <b>Northeastern University</b> <ul style="list-style-type: none"><li>• MS, Computer Science</li><li>• GPA: 3.6/4</li><li>• Relevant Coursework: Foundations of AI, Game AI, Machine Learning</li></ul> <b>St. Xavier's College (Autonomous), Kolkata (under University of Calcutta)</b> <ul style="list-style-type: none"><li>• M.Sc., Computer Science</li><li>• GPA: 9.11/10</li></ul> <b>NSHM College of Management and Technology (under West Bengal University of Technology)</b> <ul style="list-style-type: none"><li>• Bachelor in Computer Applications (BCA)</li><li>• GPA: 9.06/10</li></ul>	<i>September 2016 - Present</i>  <i>September 2016 - April 2018</i>  <i>August 2014 - May 2016</i>  <i>August 2011 - June 2014</i>
RESEARCH EXPERIENCE	<b>Northeastern University</b> <ul style="list-style-type: none"><li>• Graduate Research Assistant, Playable Innovative Technologies (PLAIT) Lab</li><li>• Adviser: Seth Cooper</li><li>• Interests: Procedural Content Generation, PCGML, Game AI, Human Computation Games</li></ul>	<i>September 2016 - Present</i>
PUBLICATIONS	<b>A. Sarkar</b> , S. Cooper, “Comparing Paid and Voluntary Recruitment in Human Computation Games”, <i>Proceedings of FDG 2018, Malmo, Sweden</i> September 2018.  <b>A. Sarkar</b> , S. Cooper, “Meet your Match Rating: Providing Skill Information and Choice in Player-versus-Level Matchmaking”, <i>Proceedings of FDG 2018, Malmo, Sweden</i> September 2018.  <b>A. Sarkar</b> , S. Cooper, “Level Difficulty and Player Skill Prediction in Human Computation Games”, <i>Proceedings of AIIDE 2017, Snowbird, Utah, USA</i> , October 2017.  M. Williams, <b>A. Sarkar</b> , S. Cooper, “Predicting Human Computation Game Scores with Player Rating Systems”, <i>Proceedings of ICEC 2017, Tsukuba, Japan</i> , September 2017.  <b>A. Sarkar</b> , M. Williams, S. Deterding, S. Cooper, “Engagement Effects of Player Rating System-Based Matchmaking for Level Ordering in Human Computation Games”, <i>Proceedings of FDG'17, Cape Cod, Massachusetts, USA</i> , August 2017. ( <i>Honorable Mention</i> )	

**A. Sarkar**, D. Datta, “A Frequency Based Approach to Multi-Class Text Classification”, *International Journal of Information Technology and Computer Science*, Vol. 9, No. 5, May 2017.

**A. Sarkar**, S. Chatterjee, W. Das, D. Datta, “Text Classification using Support Vector Machine”, *International Journal of Engineering Science Invention*, Vol. 4, No. 11, November 2015.

A. Acharya, D. Sinha, **A. Sarkar**, D. Seth, K. Basu, “A Mixed Approach to Smart Group Formation in Collaborative Learning”, *Smart Computing Review*, Vol. 5, No. 5, October 2015.

**A. Sarkar**, D. Seth, K. Basu, A. Acharya, “A New Approach to Collaborative Group Formation”, *International Journal of Computer Applications*, Vol. 128, No. 3, October 2015.

A. Ghosh, **A. Sarkar**, A.S. Ashour, D. Balas-Timar, N. Dey, V. E. Balas, “Grid Color Moment Features in Glaucoma Classification”, *International Journal of Advanced Computer Science and Applications (SAI)*, Vol. 6, No. 9, September 2015.

#### SERVICE

#### **Foundations of Digital Games (FDG) 2018**

Program Committee, Player Modeling and Visualization Track

#### PROJECTS

#### **Procedural Level Generation for an Educational Puzzle Game** (February - April 2017)

A grammar-based PCG system that procedurally generates solvable levels for the educational puzzle game *May's Journey*.

#### **Comparing Q-Learning and SARSA Agents in Static and Dynamic Goal Oriented Environments** (December 2016)

Compared the performance of two reinforcement learning algorithms, Q-Learning & SARSA, in implementing an AI agent for the classic 2D game *Snake*.

#### **Use of Materialized Views in Incremental Data Mining and Content Based Image Retrieval** (July 2015 - May 2016)

A pair of research tools for transaction processing and image classification, both using materialized views and an incremental mining approach.

#### **ClassManager** (February 2014 - May 2014)

An online portal and Android app for creating and managing classes and adding teachers, courses and students to the classes. Additionally, includes an updated version of *TestManager* to manage student attendance and grades.

#### **TestManager** (November 2013 - December 2013)

An online test portal using PHP and MySQL that allows teachers to create MCQ tests and students to take them.

#### **Retro Games** (2011 - 2012)

An application that allows users to play simple versions of the classic games *Break-out*, *Pong*, *Snake* and *Tetris*.

HONORS AND  
AWARDS

**Game Narrative Review Gold Award** (February 2018)  
Awarded by the Game Developers Conference (GDC)

**Best Paper Honorable Mention** (August 2017)  
Awarded by the Foundations of Digital Games (FDG) conference

**Graduate Fellowship** (September 2016)  
Awarded by Northeastern University

**Father Jacques de Bonhome S.J. Memorial Gold Medal** (January 2017)  
Awarded by St. Xavier's College, Kolkata  
M.Sc Computer Science Class of 2016 Valedictorian (out of 60 students)

**All-State Rank 7th in JECA 2014** (August 2014)  
Joint Entrance Examination for Computer Applications conducted by WBJEEB

**NSHM Medal of Merit** (June 2014)  
Awarded by NSHM College of Management and Technology  
BCA Class of 2014 Valedictorian (out of 44 students)

SKILLS

**Programming Experience**  
Python, C#, Java, C++, ActionScript, MATLAB, JavaScript

**Languages**  
English (native proficiency)  
Bengali (native proficiency)  
Hindi (full professional proficiency)  
French (limited working proficiency)  
Urdu (limited working proficiency)

WORK  
EXPERIENCE

**Northeastern University** *September 2016 - Present*  
Graduate Research Assistant

**DirectData Inc.** *July 2011 - August 2016*  
Data Entry Operator

**Cubesquare Informatics** *January 2011 - February 2012*  
Content Writer