RUSHIT SANGHRAJKA

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EDUCATION

UNIVERSITY OF UTAH
Salt Lake City, UT   August 2017- Current
- Currently pursuing a PhD in Computing, under the Human Centered Computing track (GPA: 3.9)
- Advisor: Prof. R Michael Young
- Research Topic: Narrative Planning for Character Emotional Trajectories

RUTGERS THE STATE UNIVERSITY OF NEW JERSEY, NEW BRUNSWICK CAMPUS
New Brunswick, NJ   January 2015- January 2017
- Graduated summa cum laude with a BS degree in Computer Science
- GPA (on a scale of 4.0): 3.9

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE (VJTI)
Mumbai, India   July 2012- September 2014
- Completed two academic years in B.Tech in Information Technology and transferred to Rutgers
- CPI- Cumulative Performance Index (on a scale of 10): 8.5

ADDITIONAL COURSEWORK
- *Beginning Game Programming in C#,* offered by **University of Colorado, Colorado Springs (Coursera)**
- *Creative Programming for Digital Media & Mobile Apps,* offered by **University of London (Coursera)**

PUBLICATIONS

1. **Rushit Sanghrajka**, Daniel Hidalgo, Patrick P. Chen, and Mubbasir Kapadia. 2017. LISA: Lexically Intelligent Story Assistant. *Proceedings of the 13th AAAI Artificial Intelligence and Interactive Digital Entertainment Conference (AIIDE 2017).*

2. **Rushit Sanghrajka**, Wojciech Witoń, Sasha Schriber, Markus Gross and Mubbasir Kapadia. 2018. Computer-assisted Authoring for Natural Language Story Scripts. *The Thirtieth Annual Conference on Innovative Applications of Artificial Intelligence (IAAI 2018).*

3. Marcel Marti, Jodok Vieli, Wojciech Witoń, **Rushit Sanghrajka**, Daniel Inversini, Diana Wotruba, Isabel Simo, Sasha Schriber, Mubbasir Kapadia, and Markus Gross. 2018. CARDINAL: Computer Assisted Authoring of Movie Scripts. *ACM Conference on Intelligent User Interfaces (IUI 2018).*

4. **Rushit Sanghrajka**. 2018. Leveraging Cognitive Models in Planning to Assist Narrative Authoring. *14th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2018)*. Doctoral Consortium Abstract.

5. **Rushit Sanghrajka**. 2019. Interactive Narrative Authoring Using Cognitive Models in Narrative Planning. *Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2019)*. Doctoral Consortium Abstract.

6. **Rushit Sanghrajka** and R. Michael Young. 2019. A Knowledge Representation for Planning-Based Story Generation Applied to the Manual and Automatic Encoding of Plot. *International Conference on Interactive Digital Storytelling (ICIDS 2019)*.

7. **Rushit Sanghrajka**, R. Michael Young, Brian Salisbury and Eric W. Lang. 2019. ShowRunner: A Tool for Storyline Execution/Visualization in 3D Game Environments. *International Conference on Interactive Digital Storytelling (ICIDS 2019)*.

8. Benjamin Nye, **Rushit Sanghrajka**, Vinit Bodhwani, Martin Acob, Daniel Budziwojski, Kayla Carr, Larry Kirshner, and William Swartout. 2021. OpenTutor: Designing a Rapid-Authored Tutor That Learns As You Grade. *The International FLAIRS Conference Proceedings* 34.

9. **Rushit Sanghrajka**, Eric W. Lang, R. Michael Young. 2021. Generating QUEST Representations for Narrative Plans Consisting of Failed Actions. *UX of AI Workshop held at the International Conference on the Foundations of Digital Games (FDG'21)*.

10. **Rushit Sanghrajka**, R. Michael Young, and Brandon Thorne. 2022. HeadSpace: Incorporating Action Failure and Character Beliefs into Narrative Planning. *Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment(AIIDE 2022)*.

11. **Rushit Sanghrajka**, and R. Michael Young. 2022. Evaluating Reader Comprehension of Plan-Based Stories Containing Failed Actions. Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment(AIIDE 2022).

12. Michael Clemens, Nancy N. Blackburn, **Rushit Sanghrajka**, Monthir Ali, M. Gardone, Shilpa Thomas, Hunter Finney, and Rogelio E. Cardona-Rivera. 2022. A Case-Based Reasoning Approach to Plugin Parameter Selection in Vocal Audio Production. *Case-Based Reasoning Research and Development: 30th International Conference, ICCBR 2022*.

PATENTS

1. Sasha Anna Schriber, **Rushit Sanghrajka**, Wojciech Witon, Isabel Simo, Mubbasir Kapadia, Markus Gross, Daniel Inversini, Max Grosse, and Eleftheria Tsipidi. Automated storyboarding based on natural language processing and 2D/3D pre-visualization. U.S. Patent 11,269,941, issued March 8, 2022.

AWARDS AND HONORS

EAAI NEW AND FUTURE AI EDUCATOR AWARD
The Eighth Symposium on Educational Advances in Artificial Intelligence 2018 (EAAI-18)   February 2018
- Presented at EAAI-18 on how collaborative learning can impact education in AI

GRADUATE RESEARCH FELLOWSHIP PROGRAM (GRFP)   2017-18
National Science Foundation (NSF)
- Received an honorable mention for the NSF GRFP

RODKIN SCHOLARSHIP
School of Arts and Sciences Academic Excellence Award, Rutgers University   2015-16

SCHOLARSHIP FOR HIGHER EDUCATION UNDER INNOVATION IN SCIENCE PURSUIT FOR INSPIRED RESEARCH (INSPIRE)

Department of Science and Technology, India   March 2012
- Qualified by virtue of performance within the top 1% of School Board at Class XII level in the examination held during the academic session ending March 2012

RESEARCH PROJECTS

HEADSPACE   Spring 2018- Current
- Research project under my advisor, Dr. R. Michael Young
- Worked on an implementation of the HeadSpace and HeadSpaceX narrative planners

CARDINAL- COMPUTER ASSISTED AUTHORING FOR MOVIE SCRIPTS   Summer 2017
- Research project at Disney Research
- Tackles challenges that LISA faced, and introduces character-centric knowledge representation and reasoning for stories

LISA- LEXICALLY INTELLIGENT STORY ASSISTANT   Spring 2016- Spring 2017
- Research project with Prof. Mubbasir Kapadia, Rutgers University
- Focuses on assisting story-writers in real-time by flagging inference-based errors in a story, and allows the user to query the story knowledge in natural language. Presented at AIIDE 2017

LEARNING SEQUENCE ALIGNMENT ALGORITHMS USING BLOCKLY   Spring 2016
- Research project with Prof. Alexander Schliep, Rutgers University
- This project uses puzzle blocks to teach sequence alignment algorithms commonly used in DNA sequence alignments to people with a non-coding background

TEACHING EXPERIENCE

UNIVERSITY OF UTAH   Fall 2018-Current
Salt Lake City, UT

Student Instructor
Programming for All 1 (COMP1010), Fall 2021 at the Asia Campus, Spring 2022, Spring 2023 at the Main Campus
- Responsible for preparing new course material, delivering all lectures, and supervising up to seven Teaching Assistants
- Course enrollment: 16 and 161 students respectively

Guest Instructor
Programming for All 1 (COMP1010), Fall 2021
- Prepared and delivered lectures for a week as part of an initiative to train graduate students to teach large classes

Teaching Assistant
Natural Language Processing, Fall 2020
- Served as teaching assistant, graded assignments and exams

Artificial Intelligence for Games, Spring 2019
- Delivered guest lectures, graded assessments, served as teaching assistant

Introduction to Artificial Intelligence, Spring 2019

- Designed assignments, delivered guest lectures, graded assignments and exams, served as teaching assistant

Natural Language Processing, Fall 2018
- Designed assignments, delivered guest lecture, graded assignments and exams, served as teaching assistant

RUTGERS UNIVERSITY   Fall 2015-Fall 2016
New Brunswick, NJ

Peer Instructor

Exploring Computer Science (First-year Interest Group Seminars), Fall 2016
- Designed the syllabus, course structure and lesson plans for a ten-week one-credit course titled Exploring Computer Science
- Delivered all lectures, managed the course
- Course Enrollment: 20 students

Learning Assistant

Introduction to Computer Science, Fall 2016
- Conducted labs for multiple sections of ~30 students each

Introduction to Discrete Structures, Fall 2015, Spring 2016
- Conducted roughly two study groups every semester of ~12 students each
- Developed learning activities for each study group session working closely with the instructor and the Math and Science Learning Center

ACADEMIC SERVICE

PROGRAM COMMITTEES
- AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2022
- IEEE Conference on Games (CoG) 2022
- AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2021
- International Conference for Interactive Digital Storytelling (ICIDS) 2021
- AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2020
- Intelligent Narrative TechnologiesWorkshop (INT) 2020

COMMUNICATIONS CHAIR, AIIDE 2021   2021
Virtual Conference
- Served as Communications Chair for the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2020 conference

CO-CHAIR, INT 2020   2020
Virtual Workshop
- Served as co-chair of the 12th Edition of the Intelligent Narrative Technologies (INT) workshop, held as part of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) 2020 conference

COMMUNICATIONS CHAIR, ICIDS 2019
Salt Lake City, UT   2019
- Served as Communications Chair for the International Conference for Interactive Digital Storytelling
- Duties involved sending out communications and announcements for the conference, running the website, managing publicity, and recording various conference talks

CO-CHAIR, GRADSAC, UNIVERSITY OF UTAH SCHOOL OF COMPUTING   Spring 2018- Spring 2020

Salt Lake City, UT
- Served as a committee member for the Graduate Student Activities Council
- Managed social events held with the School of Computing, served on student council for Retention-Promotion-Tenure review

RELEVANT COURSEWORK

University of Utah	**Rutgers University**
Computational Narratives	Digital Storytelling
Natural Language Processing	Research in Disciplines: Heroes and Villains
Information Extraction	Introduction to Creative Writing
Science of Game Design	Introduction to Computer Graphics
Storycrafting for Games	Artificial Intelligence
Introduction to HCI	
Advanced HCI	

WORK EXPERIENCE

RESEARCH ASSOCIATE, INSTITUTE FOR CREATIVE TECHNOLOGIES (ICT)   Summer 2020
Los Angeles, California
- Worked on the OpenTutor project, a conversation-based tutoring system
- Developed a module that interfaces with the ML classifier and the web client
- Designed a decision-based dialog pipeline to determine the appropriate feedback or follow-up prompts in a dialog towards a lesson goal

RESEARCH INTERN, SRI INTERNATIONAL   Summer 2019
Princeton, New Jersey
- Worked on the 'Communicating With Computers' project, funded by DARPA
- Added capabilities to the knowledge structure for storing scene content and ability to manipulate the structure using natural language directives

LAB ASSOCIATE, DISNEY RESEARCH
Glendale, California   Summer 2017
- Worked along with the Disney Research Zurich team on CARDINAL

SUMMER TECHNOLOGY ANALYST, JPMORGAN CHASE & CO.
Jersey City, New Jersey   June 2016- August 2016
- Worked on technical projects within the Corporate Investment Bank Division

SOFTWARE DEVELOPER, RUDRAYA TECHNOLOGIES
South Brunswick, New Jersey   February 2015- March 2017
- Worked on KEEP platform, a web-based application for clinical trial pharmaceutical research

WEBSITE DESIGN INTERN, BUTTERFLY DIAMONDS
Mumbai, India   May 2014 - July 2014
- Designed and built the company website, developed the databases and connected to a cloud server

OTHER RELEVANT PROJECTS

THE TROJAN WAR GAMEBOOK
Storycrafting for Games   Spring 2019
- Built a human-authored interactive narrative game book based on the Trojan War

- The prototype has 6500 words, 30+ story nodes and six possible endings
- Added game mechanics include influence with various characters impacting the choices in the narrative

ROLE LEARNING IN RUSSIAN FOLKTALES

Information Extraction   Spring 2018
- Built a system which attempts to learn Proppian character archetypes in stories

ANIMATION AND NAVIGATION IN UNITY

Digital Storytelling Honors Seminar   Spring 2016
- Individually built various projects in Unity with animation and navigation

MALL MANAGEMENT RDBMS MODEL

Database Management Systems   Spring 2014
- Designed in MySQL, with a focus on the DBMS system being used by the mall administration team
- A web application interface was built to access the information

TECHNICAL SKILLS

- **Programming languages:** C, C++, C#, Java, Python, PHP, Shell Script
- **Software:** ZWCAD, Microsoft XNA framework, Unity 3D Game Engine, SteerSuite Simulator, Docker
- **Natural Language Processing:** Stanford CoreNLP
- **Database management:** SQL
- **Webpage Designing:** HTML, JavaScript, CSS, AJAX, D3
- **Version Control:** Git
- **Games and Apps:** Game Development (Unity3D), Application Development (JavaFX, WPF), VR Development (Oculus)

LEADERSHIP EXPERIENCE

- Peer Leader at Rutgers University for the year 2015-16
- Internship Coordinator for the Third Year B.Tech IT class in VJTI from July to October 2014
- Class Representative (CR) for First Year and Second Year of B.Tech IT in VJTI i.e. for the academic years 2012-2014
- Department Head for IT Department in Pratibimb 2013, annual cultural festival of VJTI in December 2013, and as Event Head for the same festival in January 2013

VOLUNTEER EXPERIENCE

SPARSHA CHARITABLE TRUST   June 2013- October 2014
- Taught economically underprivileged children English, Mathematics and Science