SASHA AZAD

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EDUCATION

M.S. COMPUTER SCIENCE   **GPA : 3.71**
Georgia Institute of Technology
> **Specialization:** Interactive Intelligence. **Relevant Courses Done:** Artificial Intelligence, AI Storytelling in Virtual Worlds, Knowledge Based AI, Game AI, Computational Creativity, Information Visualization, Interactive Narrative, Artificial Intelligence & Science Fiction, Mobile Apps & Services, Augmented Reality, Video Game Design.

B.E. COMPUTER ENGINEERING   **GPA : 3.8**
University of Mumbai   *First Class with Distinction*
> **Electives:** Artificial Intelligence & Soft Computing. **Relevant Courses Done:** Artificial Intelligence, Soft Computing, Data Structures & Files, Discreet Structures & Graph Theory, Analysis of Algorithms & Design, Data Warehouse & Mining, Theory of Computer Science, Computer Graphics, Advanced Database Management Systems, Advanced Computer Networks.

WORK EXPERIENCE

GRADUATE RESEARCH ASSISTANT: Campus APIs & Mobility Group   **Jan '15 - May '16**
Research Networks & Operations Center, Georgia Institute of Technology
> **Advisor:** Dr. Russ Clarke & Dr. Matt Sanders. **Description:** Worked with campus research groups to open data, facilitate student innovation, and develop new modes of interaction. Built mobile web applications for the GT Journey initiative and GTMobile portal. Worked with student groups harnessing the APIs created from conception and design to entrepreneurial launches or startups of their project. Frequently lead workshops & tutorials on web mobile development, Unity, Django, REST API development, and prototyping.

ENTREPRENEURIAL LEAD: Design & Intelligence Lab   **May '15 - Dec '15**
National Science Foundation (NSF) iCorps Grant Recipient
> **Principal Investigator:** Dr. Ashok Goel & Harold Solomon. **Description:** R&D for a knowledge extraction tool that is capable of extracting deep understanding from text to improve the precision, relevance and fertility of knowledge that can be retrieved in response to queries by direct matching & analogical reasoning. The information extraction is aided by the use of domain knowledge and proprietary knowledge representation to annotate extracted information using a structure-behaviour-function modeling. Interviewed over 100 financial analysts and researchers in big banking firms such as Morgan Stanley to study the use of such a tool in a highly reactive financial environment.

CONSULTANT: Global Mobility Group   **Aug '12 - Jun '14**
Capgemini India Pvt. Ltd. | Software Engineer('12), Senior Software Engineer('13), Consultant('13)
> **Manager:** Ramakant Satam. **Description:** Developed several native, web and hybrid mobile applications for iOS & Android devices. Designed an application that allowed for consumer & enterprise clients to access visualizations of various enterprise data via mobile applications to enable cross-domain collaboration. Helped initiate a Global Mobility Group and device management system for enterprise devices.

APPLICATION ANALYST: Global Mobility Group   **Jun '11 - Aug '12**
Bayer Business Services | Software Engineer('11), Application Analyst ('12)
> **Manager:** Ramakant Satam. **Description:** Initiated the first mobile development team in Bayer. Trained & integrated more employees into the team. Developed wireframes and interactive prototypes for Enterprise & Consumer applications. Launched several mobile applications to the Apple App Store & the Google Play Store in India, Japan, UK & the United States. Worked primarily on Sencha Touch, Objective C, Augmented Reality, Google Maps, QR Codes, and Cordova.

WEB DEVELOPER INTERNSHIP: Web & Marketing Group   **May '10 - Aug '10**
Design Elements
> **Manager:** Souvanik Jani. **Description:** Independently developed a client side content management system and a lead management system for a web design firm in my senior year. Also developed a dynamic website utilizing said CMS & LMS.

SKILLS

Programming	Python (Proficient), HTML5/Javascript (Proficient), SQLite (Proficient), Java and C++ (Working knowledge), Objective C (Working knowledge), MATLAB (Beginner)
Technologies	Django (Proficient), Sencha Touch (Proficient), D3, LATEX, iOS, Android, Layar, Cordova
Design & Prototyping	Wireframes, Omnigraffle, Keynote, User Research, Storyboards
Languages	English, Hindi, Marathi

PROJECTS

ENTERTAINMENT INTELLIGENCE DOMAIN

Augmented Reality Super Mario Bros *(Masters Project)*: Entertainment Intelligence Lab   **Sep '15 - May '16**
  Advisor: Dr. Mark Riedl. **Description:** Designed and developed an augmented reality interactive experience that responds to real time changes in the user's environment. The interaction scans the room using a Kinect and performs surface detection, using a combination of Game AI, Player Modeling and PCG to dynamically generate levels for the user.

Characterizing the Marvel Comic Universe (Information Visualization Project):   **Sep '15 - Dec '15**
  Designed a interactive visualization in D3 for Marvel comic book enthusiasts and fans to explore the vast variety of Marvel characters, their relationships to one another and to their universe. Also developed a relational database and REST APIs in Django to support the interaction.

Creation of a Player-Centric Dynamic Game AI (Artificial Intelligence Project):   **Mar '14 - May '14**
  Developed an AI gameplay agent to play the Isolation board game on an 8×8 grid. The agent used player modeling and clustering to judge the personality type and skill level of the human playing the game and make moves to match this characterization of the player. The agent implements a Random Walk Minimax with Alpha Beta as it's algorithm.

NARRATIVE & ARTIFICIAL INTELLIGENCE DOMAIN

Cognopsi - A Knowledge Extraction (Design Intelligence Lab - Special Problem):   **Aug '15 - Present**
  Currently working on R&D for a knowledge extraction tool that is capable of extracting deep understanding from text to improve the precision, relevance and fertility of knowledge that can be retrieved in response to queries by direct matching & analogical reasoning.

Jill - An Intelligent Research Assistant (Computational Creativity Project):   **Feb '15 - May '15**
  Developed an interactive concept search engine using IBM Watson and Python that could comb through scientific papers and journals. The search engine tracked the cognitive research thought process of the user while aiding literature review.

Multiplayer AI Narrative & Quest Generator (AI Storytelling in Virtual Worlds project):   **Sep '14 - Dec '14**
  Development of a Python AI Simulator that generated a murder mystery (with simulated motives) given a set of characters. The AI Game Master controls when to divulge clues & plot-lines to players. A quest generator was created to improve gameplay.

Intelligent Self Learning Conversational Agent (Bachelor's Research Project):   **Sep '10 - May '11**
  An AI Chatterbot that attempted to beat the Turing's Test and expanded it's knowledge base from user interaction and the internet using case-based reasoning and semantic frames.

INTERACTIVE INTELLIGENCE DOMAIN

Unlock the Box (Independent - Civic Engagement Domain):   **Oct '15 - Present**
  An API to improve voter turnout and encourage civic participation targeting the rising American electorate who comprise 62% of the voting age population in Georgia yet only 53% of registered voters. We are currently tying up with New Georgia Project's Director to create the proposed Voting API for the State of Georgia.

Detection of Substitution Errors on Mini-QWERTY Keyboards (Artificial Intelligence Project):   **Aug '14 - Dec '14**
  Comparing standard classification techniques for the detection of substitution errors with the detection in the Automatic Whiteout algorithm, and performing feature selections to reduce the dimension of features and speed the algorithms up.

Solving Raven's Progressive Matrices (Knowledge Based AI Project):   **Aug '14 - Dec '14**
  Designed & developed an AI agent in Python that could solve the 2×1, 2×2, 3×3 Visual IQ test problems using Knowledge Based AI techniques. Four projects were developed individually, building on each other to solve the propositional, imagistic, and multimodal representations of the RPM with increasing complexity.

Semantic Rule Based IFC Parser (Independent - Architecture Domain):   **Aug '14 - Sep '14**
  Designed an algorithm that allowed a user to describe a Semantic Knowledge Based Rule Set which would be automated and implemented for the architecture domain to minimize the number of slab pieces. The algorithm adhered to user preferences and limitations generating an enriched IFC file that could be used for slab segmentation.

MOBILITY DOMAIN

TechEats (RNOC - Georgia Tech):   **May '15 - Jun '15**
  Currently live and in use on the Georgia Tech campus. The web mobile application's front-end was written in Sencha Touch to integrate closely with the Google Maps Javascript v3 API and GT Facilities Backend to showcase live dining options on campus.

TaskIt (Mobile Apps & Svcs Project):   **Aug '14 - Dec '14**
  Handled the UI/UX and backend APIs from conception to development for Mobile Web calling a Django backend. Created a combined grocery list with future integration to Venmo & Splitwise. TaskIt won the Fall '14 Georgia Tech CIC competition.

Bayer Eco Commercial Building App (Bayer - Mobile Information Visualization):   **Oct '11 - Jan '12**
  Created backend in Java/JSP to collect data from an energy efficient building in India. Also created a front-end for the application in Sencha Touch to display the data on the iPad using interactive graphs and visualizations. The application won many accolades at the Global Mobility Conference in Leverkusen.