

# Maulik Shah

## AI Engineer and Researcher

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### EDUCATION

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- **University of Georgia** Athens, GA  
*Master of Science in Artificial Intelligence* Aug 2016 - May 2019
- **Gujarat Technological University** Ahmedabad, India  
*Bachelor of Engineering in Computer Engineering* Jul 2008 - July 2012

### TECHNICAL SKILLS

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- **AI Skills:** Classical machine learning methods and classical NLP. Image segmentation with deep learning frameworks like UNET, VNET, etc. Data Engineering and Visualization. Decision-theoretic frameworks like MDP, MCTS, I-POMDP. Motion planning in Robotics. Evolutionary Algorithms. Human psychology in decision making.
- **Programming Languages:** Java, Python, C++, SQL/PLSQL, R, VBA, LaTeX.
- **Frameworks and Libraries:** ROS, BURLAP, Spark, PyTorch, OAF and ADF for Oracle EBS, Oracle SOA.
- **Versioning:** Git. **Platforms:** Google Cloud, Microsoft Azure.

### ACADEMIC PROJECTS

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- **Scalable Individual Planning in Open Agent Systems (Masters' thesis):** Jun 2017 - April 2019
  - Designed a decision theoretic individual planning framework for multi-agent systems involving many agents.
  - Submitted a paper for this research to NeurIPS - 2019.
- **Analysis of EU Amendment Delegation:** Apr 2017 - Jun 2017
  - Created an ML predictor for classifying the European Union amendments on delegation to third parties.
  - Utilized of classical NLP techniques and other visualization methods in R.
- **Documents Classification:** Jan 2018 - Feb 2018
  - Performed classification of a Reuters's document dataset sizing 100+ GB while achieving a 90%+ accuracy in a team of 3.
  - Utilized classical NLP methods using Apache Spark on GCP clusters.
- **Insurance Data Classification:** Nov 2016 - Dec 2016
  - Applied regression methods on an insurance dataset from a Kaggle competition with more than 100K records.
  - Used classical machine learning methods like linear regression, decision trees, etc.
- **Prediction of Human Brain's State:** Mar 2018 - May 2018
  - Segmented and registered 3D brain MRI images to identify healthy or pathogenic brain states in a team of 2.
  - Used a deep learning framework V-NET in PyTorch on Nvidia on-premise and GCP GPU machines.
- **Sudoku Solver:** Nov 2016 - Dec 2016
  - Designed a dynamically parameterized genetic algorithm that solves Sudoku as a constraint satisfaction problem.
  - Used an island model for parallelism in GA and programmed from scratch in Java with multi-threading.

### RELEVANT EXPERIENCE

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- **Johnson Controls** Milwaukee, WI  
*AI Software Engineer* June-2019 - Present
- **EITS, University of Georgia** Athens, GA  
*Student Worker in Student Information and Systems Team* Feb 2017 - Feb 2018, May 2018 - May 2019
  - Automated the data-warehousing snapshots, thereby avoided manual scheduling tasks.
  - Conducted data migration, reconciliation, and reporting involving academic records in millions.
  - Awarded UGA Student Employee of the Year, 2017.
- **Evolutionary Systems Pvt. Ltd.** Ahmedabad, India  
*Technical Consultant in Application Development Team* Aug 2012 - Aug 2016
  - Contributed to 10+ enterprise projects globally reaching a user base in thousands for front-back end application development, workflow design, system integration and technical consulting, primarily in Oracle ERP, SOA, and database technologies.
  - Helped the company to retain project knowledge with industry standard documentation, training, and mentoring.

### VOLUNTEER EXPERIENCE

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- UGA Graduate School Emerging Leader Program Sep 2017 - Jun 2018
- UGA Red Cross Sep 2016 - Present
- Speak Out for Species at UGA Sep 2017 - Dec 2018
- AIESEC in Ahmedabad, India Feb 2011 - Dec 2011