Meha Goyal Kumar

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https://mehakumar.github.io/

EDUCATION

- **University of Illinois at Urbana-Champaign; GPA: 4.00/4.00** — Champaign, IL
  Candidate for Master of Science in Computer Science, Advisor: Heng Ji — *Aug 2020 – present*

- **Georgia Institute of Technology; GPA: 3.98/4.00** — Atlanta, GA
  Bachelor of Science in Computer Science, Minor in Spanish, Research Option — *Aug 2016 – May 2020*

SKILLS

- **Development:** Python, Jupyter Notebooks, PyTorch, MATLAB, Java, C#, C
- **Coursework:** AI, Machine Learning, Natural Language Processing, Information Extraction, ML for Signal Processing

RESEARCH

- **BLENDER Lab at UIUC** — Champaign, IL
  Master's Thesis with Dr. Heng Ji — *Aug 2020 – present*
  - Developed models for information extraction from natural language and multimedia sources
  - Annotated data to enable further development, thesis topic to be determined

- **Expressive Machinery Lab at Georgia Tech** — Atlanta, GA
  Undergraduate Thesis with Dr. Brian Magerko — *Aug 2018 – Jun 2020*
  - Developed creativity metrics for artificially intelligent agents in open-ended, improvisational installations
  - Enabled creative decision making by studying computational creativity and machine learning
  - Applied work to human-computer collaborative projects: LuminAI and the Robot Improv Circus

  Meha Kumar, Duri Long, Brian Magerko. *Creativity Metrics for a Lead-and-Follow Dynamic in an Improvisational Dance Agent.* International Conference on Computational Creativity (ICCC), 2020.

- **Materials Science Research Scholars Program** — Atlanta, GA
  Undergraduate Research with Dr. Arun Gokhale — *Jan 2017 – Dec 2017*
  - Tested Advanced High Strength Steels (AHSS) for use in the automobile industry
  - Measured AHSS across various strain rates and quantified a new microstructural feature
  - Saved hours of manual Excel work by building MATLAB scripts to process thousands of data points

EXPERIENCE

- **Honeywell** — Atlanta, GA
  Data Science Intern — *May 2021 – Aug 2021*
  - Developed a patent search tool from scratch by translating user needs to information retrieval models
  - Utilized BM-25, BERT embeddings, and search query expansion to deliver an efficient, high-performing system

- **Green Hills Software** — Santa Barbara, CA
  Software Engineering Intern — *May 2020 – Aug 2020*
  - Developed the RISC-V Architecture Support Package (ASP) for u-velOSity, a real-time operating system
  - Worked closely with the simulator and compiler teams to broaden RISC-V support across the toolchain

- **Green Hills Software** — Santa Barbara, CA
  Software Engineering Intern — *May 2019 – Aug 2019*
  - Solved long-standing bugs in high reliability, high security embedded software systems
  - Studied debugging principles and developed course materials for a university debugging class

- **JDA Software** — Roswell, GA
  Software Engineering Intern — *May 2018 – Aug 2018*
  - Re-architected non-standardized, untested RESTful APIs for work force management automation
  - Designed and implemented maintainable software architecture in C# backend code

PROJECTS

- **Machine Learning Projects** — Atlanta, GA and Champaign, IL
  End-of-course projects — *Aug 2019 – Dec 2020*
  - **Information Retrieval:** Attention-guided synthetic training for neural IR on Natural Questions dataset
  - **Basketball:** Predicted a bracket for March Madness using past years' tournament data
  - **Tweets:** Determined whether a tweet is about a disaster or not for emergency response
  - **Birdsong:** Identified the species of bird from audio clips of birdsong

Leadership

- **University of Illinois Department of Computer Science** — Champaign, IL
  Graduate Teaching Assistant — *Aug 2020 – present*
  - Assisted in course management for a Machine Learning course
  - Held office hours, created exams and homework, and helped run online lecture

- **Georgia Tech College of Computing** — Atlanta, GA
  Senior Teaching Assistant — *Jan 2017 – Dec 2018*
  - Taught recitations of 50 students on MATLAB coding and introductory computer science
  - Managed a team of 40 people to create, edit, and grade exams to be taken by 800 students

- **The Girl Code Project** — Atlanta, GA
  Lecturer and Mentor — *Jan 2017 – Aug 2017*
  - Taught middle school girls Python coding and developed exercises to boost their confidence
  - Mentored girls through designing a STEM-themed video game in Python on a virtual machine

Awards and Honors

- **Engineering and Technical Science Achievement Scholarship:** Alpha Omega Epsilon, Merit-Based — *Jan 2018*
- **Materials Science and Engineering Research Scholarship:** Georgia Tech, Merit-Based — *Jan 2017*
- **PPD Employee Dependent Scholarship:** Merit-Based — *Aug 2016 – May 2020*
- **Society of American Military Engineers Scholarship:** Merit-Based — *Aug 2016*