Arinah Karim

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EDUCATION AND AWARDS

Indiana University, **School of Informatics, Computing, and Engineering** – Bloomington, IN *May 2023*
Bachelor of Science in Computer Science | **Major**: Computer Science | **Specialization**: Artificial Intelligence **GPA**: 3.69/4.00
Minor*:* Human-Centered Computing | Cognitive Science

Best Student Design Competition CREATIVITY – HRI Conference 2021 *Feb. 2021*
- Awarded for design and creation of robot prototype Crunchy: Personal Popcorn 'Corn'panion

Dean's List
- Recipient for maintaining 3.7+ GPA for 4 semesters of 6 completed semesters

TECHNICAL SKILLS

Languages: Java | Python | PostGreSQL | C++ | HTML | CSS | C | JavaScript | TypeScript | R
Operating Systems: Microsoft Windows | Linux
Miscellaneous: IntelliJ | PyCharm | Git | Visual Studio | Visual Studio Code | RStudio | Google Colab | RobotC | Eclipse | Arduino | PuTTY

EXPERIENCE

Robot-House HRI Lab & Honda Research Institute of Japan – Bloomington, IN *Jun. 2020 – Present*
Undergraduate Research Assistant
- Research facial cues and physiological arousal during human-robot interaction to better influence behavior tree decisions
- Outline and craft original human-robot activities that incorporate Honda Research Institute's Haru tabletop robot for older adults with dementia and preschoolers in a local assisted living facility
- Utilizing ROS to implement computer vision algorithm for facial recognition and body orientation estimation to better observe human-robot interactions with Haru

Relativity – Chicago, IL *May 2022 – Aug. 2022*
Software Engineer Intern
- Created designs for new button and modal using JavaScript, TypeScript, and HTML and deployed to production within one week of receiving task
- Discovered complications in reading from query and resolved by creating a company-wide, accessible NuGet package for general query-making to improve product functionality
- Resolved 87.5% of desired features in epic in collaboration with other team intern as well as other teams across the company

Center of Excellence for Women and Technology – Bloomington, IN *Aug. 2021 – May 2022*
Ethical AI Team Intern
- Assisted in creating foundation for brand new team through marketing and networking with other college organizations
- Constructed well-versed resource guide to assist community in becoming familiarized with artificial intelligence and its uses
- Orchestrated various educational events relating to artificial intelligence and ethics in technology to promote awareness and understanding of existing technologies and issues

PROJECTS

Kaggle's Spaceship Titanic *Apr. 2022 – May 2022*
R, RStudio
- Discovered hidden correlations in determining if a passenger was transported or not through reorganization and cleaning of given dataset
- Implemented logistic regression for binary classification with cleaned dataset and reached an accuracy rate of 75.03%
- Compared 2 RandomForest models and achieved 75.39% accuracy for model with cleaned data and 79.88% for model with raw data

Optical Mark Recognition *Feb. 2022 – Mar. 2022*
Python, PyCharm, Git
- Produced a computer vision system to produce a highly accurate symbolic representation of music sheet in respective clefs
- Explored computer vision topics such as cross-correlation, convolution, Hough space, and Sobel operator
- Worked collaboratively on a 3-person team and led project to complete assignment prior to deadline

Autonomous Robotic Hand *Nov. 2021 – Dec. 2021*
C, RobotC
- Devised and collaborated on the creation of an autonomous robotic hand with the ability of lifting lightly weighted objects
- Traded speed for stability for robot to successfully lift objects within a range of 18 centimeters to 33 centimeters away
- Utilized linear regression to accurately predict the desired shoulder and elbow positions to grab an object given the object's distance

Light-Seeking Plant Robot *Nov. 2021 – Dec. 2021*
C++, Arduino
- Formulated and designed autonomous robot to search and find brightest light source to assist plant in receiving more sunlight
- Constructed enclosure, body, and code for robot
- Optimized search algorithm to decrease robot search time for sunlight from quadratic to linear time

Snake AI *Apr. 2021 – May 2021*
Python, PyCharm, Git
- Constructed a Snake AI agent to learn the rules of Snake through QLearning to find optimal path to food
- Used PyGame to initialize game board and Pickle to store optimal moves in a text file
- Analyzed performance of QLearning algorithm by comparing BFS search algorithm results