# ASHISH JAISWAL

**Ph.D. Student in Computer Science**

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## EXPERIENCE

### Graduate Teaching/Research Assistant

**CSE, University of Texas at Arlington**

August 2019 – Present  Arlington, TX, USA

- Teaching Assistant for courses: C, JAVA
- Research under Prof. Makedon in Heracleia HCC Lab

### Scientific Applications Programmer

**SocialEyes NP**

April 2019 – July 2019  Kathmandu, Nepal

- Researched & implemented vision and machine learning to detect diseases from retinal images targeting macular-degeneration
- Built a risk analysis matrix dashboard to visualize patient's parameters, health information, and history

### Software Engineer

**Insight Workshop (Python Team)**

Dec 2017 – May 2019  Kathmandu, Nepal

- Wrote effective, scalable code in Django & Angular and developed back-end components to improve responsiveness and overall performance
- Implemented security and cloud solutions with AWS Services (EC2, RDS, S3, Lambda, CloudWatch)
- Incorporated classical ML techniques in web applications
- Worked on IoT projects related to health monitoring system
- Developed custom python packages and libraries

## EDUCATION / COURSES

### Ph.D. in Computer Science, GPA: 4.0

**University of Texas at Arlington**

Aug 2019 – Present

### Micromasters in Artificial Intelligence

**Columbia University - EdX**

Jan 2018 – May 2019

### Bachelors in Electronics & Comm. Engineering

**Kathmandu Engineering College, Tribhuvan University**

Nov 2014 – Sep 2018

## PUBLICATIONS

- A Multi-modal System to Assess Cognition in Children from their Physical Movements. In *Proceedings of the 2020 International Conference on Multimodal Interaction (ICMI '20). ACM.* (accepted)
- HAND-REHA: Dynamic Hand Gesture Recognition for Game-based Wrist Rehabilitation. In *Proceedings of the 13th ACM International Conference on PErvasive Technologies Related to Assistive Environments*, June 2020

## HONORS & AWARDS

- **Graduate L3/Harris Award**, UTA Innovation Day, 2020
- Selected as an **AI Scholar** in 2018 - FuseMachines Nepal
- Awarded as one of the **25 AI-fellows** from Nepal in 2017 - FuseMachines Nepal

## TECHNICAL SKILLS

- **Languages/OS**: Python, JavaScript, C, JAVA, MATLAB, SQL, Bash, Linux, HTML, CSS
- **Libraries/Frameworks**: PyTorch, Keras, TensorFlow, Numpy, Pandas, Matplotlib, Scikit-learn, Django

## PROJECTS

**Fatigue Prediction with fMRI Images**

- Built a model that predicts fatigue level of a subject with/out Traumatic Brain Injury (TBI) with 92% accuracy using brain fMRI scans.

**Cognitive Assessment in Children with Action Recognition**

- An end-to-end system that assesses cognition in children by analyzing their executive functions
- Built a multi-modal deep learning model that measured the correctness of tasks performed by children through videos

**Static Gesture Recognition for Game-based Wrist Rehabilitation**

- Designed a deep learning model to detect real-time static gestures to control a character in the game that helps in rehabilitation of subjects with wrist injury

**Mobile Autonomous Retinal Evaluation (MARVIN)**

- Worked on improving the performance of a deep learning retinal evaluation system that classifies diabetic retinopathy from retinal images

**KrishiSathi**

- A web portal for farmers integrated with Machine Learning and IoT to analyze crops and their growth daily

**BP & Heart Rate Monitoring System**

- A health analyst web application (Angular SPA & Django REST) powered by an IoT Blood Pressure device and machine learning

**WCMS for a Juice Sales Enterprise**

- Developed a data-analysis web application to manage, monitor and visualize sales in a commercial enterprise