Taha Arshad Shaheen

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EDUCATION

M.S. Informatics, Social Informatics **March 2023 (Expected)**
Kyoto University, Japan
- Advisors: Dražen Brščić, Takayuki Kanda

Bachelors of Engineering, Electronic Engineering **2017**
NED University of Engineering and Technology, Karachi, Pakistan
- Ranked 5th in graduating batch of 148 (CGPA: 3.698/4.000)

EXPERIENCE

RESEARCH EXPERIENCE

Graduate Researcher **October 2020 – Present**
Human-Robot Interaction Lab, Kyoto University
- Advisors: Dražen Brščić, Takayuki Kanda
- Identifying with the goal of prevention the low-moral actions possible through the use of avatar robots given anonymous malicious operators. Designing and executing experiments with human participants to probe the space of low-moral behavior.

Research Assistant **Nov 2018 – Sept 2020**
NCAI, NED University of Engineering and Technology
- Employed in Neurocomputation Lab under National Center of Artificial Intelligence (NCAI) funded by the Pakistan Higher Education Commission.
- Engineered low-cost socially assistive robots and conducted research on their use in autism therapy in collaboration with Center for Autism, Rehabilitation & Training Sindh (C-ARTS), Dow University of Health Sciences, and Center for Autism Karachi.
- External advisor 12 undergrduate students. Mentored them throughout their final year projects associated with our research topic. Held weekly meetings and monthly progress reports. Arranged visits to centers for autism for training and observation.

Intern **Summer, 2015**
Electronic Design Centre, NED University of Engineering and Technology
- As part of a team, tested and diagnosed electronic modules based on the Intel 8086 microprocessor. Programmed the modules in Assembly.
- Later replaced 8086 with an Arduino to expand the capabilities of the modules.

TEACHING EXPERIENCE

Graduate Teaching Assistant **Spring Semester, 2022**
Department of Social Informatics, Kyoto University
- Class: Information System Analysis. Covered basic machine learning and data mining.
- Helped graduate students with study material, programming exercises, technical issues, final class project, and coordination with professors.

Group Leader **Nov 2021 – Present**

Empowerment Program, ISA

- Lead groups of Japanese high school students in intensive programs designed to improve their speaking, presentation, and discussion skills in English. Topics covered positive thinking, UN's Sustainable Devleopment Goals, technology, personal identity, diversity, and critical thinking.

Instructor, DIY Science Course **May – Sept 2016**

Merit n Merit Coaching Center, Karachi

- Taught students ranging from 6th grade to 12th grade. Course centered on Arduino, basic electronics, and robotics.

Instructor, Course on Design and Fabrication of PCBs **March 2016**

NED University of Engineering and Technology, Karachi

- Designed and taught a 16-hour summer course to undergraduate students

Tutor **2015 – 2017**

Karachi

- Tutored 8th graders and onwards in Physics, Chemistry, and English

INDUSTRY EXPERIENCE

Fatima Fertilizer Company, Sadiqabad, Pakistan **Nov 2017 – Nov 2018**

Graduate Trainee Engineer, Instrumentation and Control

- Oversaw day-to-day maintenance jobs at Offsites & Utilities and Nitric Acid plants
- Supervised training of interns and junior Trainee Engineers
- Received training in documentation, field instrumentation, Bently Nevada vibration monitoring system, anti-surge, Gas Turbine Generator, Waste Gas Boiler, Yokogawa DCS and ESD, PSM elements and work procedures

VOLUNTEER WORK

Volunteer Assistant **Oct 2022**

IROS 2022

- Assisted session chairs and handled the functioning of equipment and computers in one room for the entire duration of the conference

Volunteer Assistant **Oct 2022**

ROSCon 2022

- Assisted organizers in guidance of participants and exhibitors

International Student/Guide **Summer 2022 – Present**

WAK Japan

- Tour guide in Kyoto for Japanese high school students from different parts of Japan. Hold conversations in English to increase students' confidence. Introduce them to Pakistani culture.
- Introduce patrons of Sekai Cafe to Pakistani culture, traditions, language, and clothing by delivering presentations and having conversations.

Field Officer **March 2019 – April 2020**

1947 Partition Archive and Stanford University Libraries

- Supervised and assisted three Story Scholars and Oral History Interns in recording life stories and oral histories of people in rural Sindh, Pakistan.

Oral History Apprentice **April 2016 – July 2017**

1947 Partition Archive

- Located and interviewed 83 witnesses of the 1947 Partition of British India to preserve their life stories and oral histories
- Organized Voices of Partition in Habib University in Karachi and Sindh Rural Support Organization in Sukkur where witnesses spoke of their experiences. Spoke about personal experience of recording life stories.
- Interviewed by BBC Radio for my work. It can be found at:
  - `https://www.bbc.co.uk/mediacentre/proginfo/2017/32/the-documentary-pakistan-partition-and-the-present`
  - `https://www.bbc.co.uk/programmes/p05b70f4`

SCHOLARSHIPS AND GRANTS

MEXT (文部科学省) Research Scholarship **April 2020 – Present**

Japanese government scholarship

- Full tuition and stipend
- Selected on the recommendation of Japanese Consulate General in Karachi after tests and interview
- One of only two people selected from Karachi in 2019

Final Year Project Grant **2017**

From the Naim Siddique Final Year Project Fund

- Annual budget of 10,000 USD, managed by the NED Alumni Association at Southern California
- Monetary sum given depending on perceived cost of project
- Granted every year to ten teams for best proposals and on recommendation of project advisor

PROFESSIONAL SOCIETIES

Pakistan Engineering Council (PEC) **2017 – Present**

Registered Engineer and Lifetime Member

- The PEC is a statutory body that regulates the engineering profession in Pakistan. It is mandatory for all engineering graduates to be registered with PEC for their qualifications to be considered valid.
- My PEC number is ELECTRO/27494

CERTIFICATIONS

ARTIFICIAL INTELLIGENCE

Deep Learning Specialization: DeepLearning.AI on Coursera *2020*

- Instructor: Andrew Ng
- 17 weeks

Machine Learning: Stanford University on Coursera *2019*

- Instructor: Andrew Ng
- 11 weeks

ROBOTICS

Modern Robotics, Course 1: Foundations of Robot Motion: *2019*

Northwestern University on Coursera

- Instructor: Kevin Lynch
- 4 weeks

Control of Mobile Robots: Georgia Institute of Technology on Coursera *2019*
- Instructor: Magnus Egerstedt
- 7 weeks

DESIGN

Human-Centered Design: an Introduction: UC San Diego on Coursera *2019*

Design Principles: an Introduction: UC San Diego on Coursera *2019*
- Instructor: Scott Klemmer
- 7 weeks total

COMPUTER AIDED DESIGN

Intro to Digital Manufacturing with Autodesk Fusion 360: Autodesk on Coursera *2019*

Autodesk Fusion 360 Integrated CAD/CAM/CAE: Autodesk on Coursera *2019*
- Various instructors
- 9 weeks total

WRITING

Writing in the Sciences: Stanford University on Coursera *2019*
- Instructor: Kristin Sainani
- 8 weeks

NOTABLE PROJECTS

Smart Home Control **2017 and 2018**
- Wrote Android app, programmed Arduino, set up backend on Google Firebase, designed PCB, and installed electronics to make my room's appliances operate via Bluetooth commands.
- Later modified project to turn on air conditioner in room a few minutes before I entered.

Assistive Robot for Home and Office Use (Robo-Chotu) **2017**
Final Year Project, NED University
- Robot, named Robo-Chotu, was designed to interact socially with people around it. It delivered speeches and hosted events in NED University of Engineering and Technology and Dow University of Health Sciences.
- Robot was later modified to interact with children on the Autism spectrum.
- Project utilized Unity game engine for its animated face, Java for Android to control expressions and bluetooth connectivity to body, Adruino for control of actuators, and included mechanical designing.

File Delivery Robot - Hathi **2015**
NED Robotics Society, NED University
- A robot with height of 3.5 feet and weighing about 40 kgs, Hathi was a line-following file delivery system. It could transfer a load of 20 kgs. Worked on it with a team under NED Robotics Society. (Hathi is Urdu for elephant.)

SKILLS

Programming Languages: C, Python, MATLAB, R, Java

Software: Robot Operating System (ROS), LaTeX

PUBLICATIONS

Manuscript Submitted to HRI2023

1. **Shaheen, T.**, Brščić, D., Kanda, T. *Investigation of Low-Moral Actions by Malicious Anonymous Operators of Avatar Robots*