

# Mujahid Khan

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## PROJECTS

### PSEUDOBOT

Developed a chatbot and a personal assistant with re-inforced learning for Software Engineering course

### BATTLEAI

Developed a two-player AI of Battleship using probabilistic learning

## EXPERIENCE

### EDUCATIVE | TECHNICAL AUTHOR

Python & Javascript Challenges, Educative Inc. (currently working)

### LUMS | TEACHING ASSISTANT

Spring 2018 - Advanced Programming  
Spring 2017 - Artificial Intelligence

## COURSEWORK

### ELECTIVE

Program Analysis  
Network Security  
High Performance Computing  
Human-Computer Interaction  
Computer Graphics

## SKILLS

### PROGRAMMING

Over 5000 lines:

• Java • C++ • Python

Over 1000 lines:

• C • JavaScript • Golang

Familiar:

• Haskell • Assembly • Android

• Unity3D • LLVM • JPF

• Z3Solver • Jalangi • Bash

## EDUCATION

### LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS)

BS IN COMPUTER SCIENCE, CONCENTRATED IN PROGRAM ANALYSIS  
Exp. Jun 2018 | Lahore, Pakistan

## RESEARCH

### SENIOR YEAR PROJECT

MENTORS: DR. JUNAID HAROON SIDDIQUI, PHD UT AUSTIN  
Jun 2017 - Present

Working on **Program Analysis** of embedded devices. We are targeting underlying operating systems such as Contiki and performing **Static Analysis** on applications that run on it using **LLVM** for power and memory optimization of IoT devices.

### PROGRAM ANALYSIS COURSE PROJECT

MENTORS: DR. JUNAID HAROON SIDDIQUI, PHD UT AUSTIN  
Sep 2017 - Dec 2017

Facilitated isolated testing of front-ends by identifying the objects being communicated using Antlr4 and Python. Manually instrumented the code in the input javascript file by deleting http get calls and inserting object recreation code.

### HUMAN COMPUTER INTERACTION COURSE PROJECT

MENTOR: DR. SULEMAN SHAHID, PHD TILBURG UNIVERSITY  
Sep 2017 - Dec 2017

Developed an android application called **MyStent** to reduce the health risks associated with post-stent patients by providing guidelines and an emergency portal after proper user research.

### DIRECTED RESEARCH PROJECT

MENTORS: DR. JUNAID HAROON SIDDIQUI, PHD UT AUSTIN  
Jan 2017 - May 2017

Understood Java Pathfinder (JPF) inside-out and explored **Model Checking** by writing sample Listeners and Choice-Generators. Reproduced the results of a previous research paper.

### BIOINFORMATICS RESEARCH INTERNSHIP

MENTOR: DR. AZIZ MITHANI, DPHIL UNIVERSITY OF OXFORD  
May 2016 - Aug 2016

Worked on the analysis of HANDS2 (HSP base Assignment using NGS data through Diploid Similarity) and improvised and revamped the existing code for HANDS2 using HTSJDK (Java API for High Throughput Sequencing developed by Broad Institute).

## AWARDS AND ACHIEVEMENTS

2014 National Outreach Program Scholarship

2016 Director IT, E-sports @ LUMS

2016 Qualified for ICPC Regional Finals

2016 Participated in Google Codejam

2017 Participated in Google Codejam

2017 Runners-up, Mindsweeper 2017