# Arnav Garg

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## Objective

Seeking an internship where I can hone my technical skills in programming and design.

## Education

Expected May 2018 — University of Texas at Arlington
B.S. (Honors) Computer Science
**Cumulative GPA**: 3.906/4
**Technical GPA**: 4.0/4.0

## Technical Skills

Language: C/C++ (Proficient), Java (Proficient), Python (Proficient), HTML, CSS, Bash (Basic Knowledge), Git, SQL(Basic Knowledge), Javascript (Basic Knowledge)
Software: Microsoft Visual Studio, Eclipse, Microsoft Office, iOS and Android.

## Projects

August 2015 – Present **Research on Memory Retention and Recall**
Created a mobile application which helps the user memorize passwords whilst playing a game. I am researching the effectiveness of this game on memory retention and recall. The game is made using Ionic Framework which is an advanced HTML5 Hybrid Mobile App Framework.
SKILLS: HTML5, CSS3, AngularJS.

March 2015-June 2015 **Foodify Android App** – HackDFW 2015
An App that displays the top 10 recipes which the user can make using the chosen ingredients.
SKILLS: SQLite and Android.

January 2015-Present **Remotely Operated Vehicle for Exploration and Reconnaissance (R.O.V.E.R)** – UT Arlington
(Pygame – Python, Arduino) https://github.com/thearnavgarg/ROVER-UTA
I am the Controls Head of the team in the ROVER Society at UTA. Tasks include
- Taking the values from the Joystick using Pygame (Python) and sending it to the Arduino.
- Creating an offline map interface and sending location co-ordinates using a GPS.
- Taking live feed from a camera and creating an interface for the video to display.

SKILLS: Python (Pygame), Arduino.

## Work Experience

May 2015-Present **Undergraduate Research Assistant –** University of Texas at Arlington, TX
Worked with Dr. Chengkai Li and Dr Christoph Csallner in their research to maximize code coverage in database applications. Debugged the program using the Eclipse Debugger. Devised new ways to make the algorithm more effective.
SKILLS: Java.

May 2015-Present **Hackerrank Campus Ambassador –** https://hackerrank.com
Champion, plan and host Hackerrank coding competitions on campus.
SKILLS: Leadership.

May 2015-Present **Resident Assistant –** University of Texas at Arlington, TX
Fostering a co-operative and considerate educational environment which contributes to the academic and personal growth and success of each resident.
SKILLS: Leadership.

## College Activities

Hackathons (HackDFW and CodeRED), Captain of the Intramural Soccer Team, Member of ACM and MOBI organizations on-campus.

**1. What developed your interest in computer science? How will the EP program support your future goals?**

**ANS**: I created my first program at the age of 15. It was a simple "Hello, World!" program. The idea of making a computer do something just by a few lines of code was fascinating to me. I spent a majority of my free time during that summer vacation in front of a text editor hacking away at some project in C and C++. The high point was when I was placed second in the national inter-school KRYPTO-NITE online treasure hunt competition where we had to find clues by using programming logic. Since then, programming has been the world I live and breathe in. My drive to explore the diverse application of computers motivated me to learn more about Human-Computer Interaction and I am currently researching on Memory Retention and Recall with students from other disciplines like Psychology and Electrical Engineering.

The EP program would be an invaluable experience which would help me understand the complete dynamics of computing technology. I aspire to do my Masters and PhD in Computer Science. The EP program would help me realise my full potential in Computer Science and provide me the opportunity to develop my professional and teamwork skills by collaborating with a more diverse group of developers on real Google Projects

**2. Tell us about a time you've used your strongest coding language. Please go into detail about your experience using this technical language (for example project, competition, website).**

**ANS**: My strongest language would be Python 2. In my freshman year, I was fortunate to join the ROVER Society at UTA, a student-run robotics team. We are working together to design and create a planetary ROVER. My primary task was to take input from the analog joystick, parse the values and send it to the arduino using a serial port and also come up with a way to track the GPS location of the ROVER using an offline map tracker. I looked up various Python modules and came across PyGame which had excellent support for joysticks. I developed a Python Code using Pygame to control the movement of the R.O.V.E.R via a Joystick Controller. The values generated by the Python code were passed to the Arduino through a serial port that we opened using two Right Hand Circular Polarized Antennas and the values were sent at a rate of 915 MHz. I also made an overlay Python code that helped to parse the GPS values received from the GPS located on the ROVER and send it to an offline map viewer program called GMapCatcher. It gave me a great sense of achievement that using this my team was able to successfully control and manoeuver the ROVER which won us a position in the top 20 in the International University Rover Challenge (URC) 2015. The details about the project are available on our website www.utarover.com. The rover code can be found on https://github.com/thearnavgarg/ROVER-UTA.

**3. The EP program is committed to increasing diversity within the technology industry. Why do you feel having a diverse workforce is important and what can Google do to further this goal in technology?**

**ANS:** Diversity in workforce will bring together varying real-life experiences across cultures and across boundaries. This will help in identifying the problems to be addressed and also help in finding the most effective solutions which would help diverse population. Most importantly, the diversity between different cultures, faiths, ethnicities and origins in the team will help in devising integrated solutions which will address issues across a spectrum. A diverse workforce would also ensure better understanding, tolerance and harmony between poeple, which, in the current world scenario, is the need of the hour.

Google can further the goal of diversity in technology by establishing software/technology development centers at diverse locations and especially in areas traditionally underrepresented in technology, such as Africa. This will not only facilitate diversity in technology but also help in propagating technology to diversity. Google can also enter into partnerships and fund academic institutions around the world for cutting-edge research, again in traditionally under-represented areas.