

# Karthik Vedantham

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## Education:

- National Institute Of Technology, Hamirpur**

Dual Degree Bachelor and Master of Technology in Computer Science and Engineering  
CGPI – 9.43/10 (Rank 2)

Hamirpur, H.P., India

Aug. 2016 – May. 2021

## Skills:

- Programming Languages:** C (good), C++ (good), Python3 (prior experience), C# (prior experience)
- Tools/Frameworks:** OpenCV (good), Unity 3D (good), Linux (beginner), Git (beginner), WRLD SDK, OpenGL (prior experience), MySQL (prior experience), Android Development (prior experience)

## Experience:

- MITACS, Canada**

Globalink Research Intern 2019

Supervised by Dr. Andrew Park, Associate Professor at Thompson Rivers University, Kamloops, Canada

British Columbia, Canada

May. 2019 - Aug. 2019

- Worked on the project "Detecting Possible Lone Wolf Terrorist's Locations" using WRLD SDK to create 3D spatial analysis and real world simulations
- Co-wrote the research paper "Detecting Possible Lone Wolf Terrorist's Locations", was accepted for the IEEE IEMCON 2019 conference

## Projects:

- Detecting Possible Lone Wolf Terrorist's Locations:** (C#, R, Unity3D, WRLD SDK)  
A computational framework providing an alternative way to detect possible locations lone-wolf terrorists might use in a possible real life attack; using three dimensional spatial analysis algorithms and real world simulations.
- Sudoku Solver:** (Python3, OpenCV)  
Implemented a sudoku solver that detects sudoku puzzles from images, extracts digits and solves the puzzle. Was programmed keeping modularity and OOPS as primary requirements.
- Slate:** (C++, OpenCV)  
A new interface, which takes input by waving 'red LED light' in front of a webcam. Slate recognises human handwriting written on it. Includes a calculator, sketch-board (with eraser), gesture control, ASCII-art.  
Winning project of Hack on Hills 3.0, 2018.
- PacManGL:** (C++, OpenGL)  
Famous Arcade game built from scratch in C++ using OpenGL (GLFW).  
Winning project of Hack 2.0, 2018. (C++, OpenGL).

## Accomplishments

- Interviewed by various prominent Canadian radio and television networks, about my project during the MITACS research internship. July. 2019
- Co-wrote a research paper on new alternative method to detect possible lone-wolf terrorist's locations which can be used to assist counter terrorism measures. July. 2019
- Ranked **575<sup>th</sup>** globally in August Challenge 2018 on Codechef. Aug. 2018
- Ranked **3<sup>rd</sup>** in Hackathon (Hack on Hills 3.0) conducted by Hackerearth. Mar. 2018
- Ranked **3<sup>rd</sup>** in Hack 2.0 conducted at National Institute of Technology, Hamirpur. Feb. 2018

## Courses

- Analysis and Design of Algorithms, Neural Networks and Fuzzy Logic, Data Structures, Operating System, Advanced-Database Management Systems.

## Co-curriculars

- Volunteer at GLUG NIT-H. *Mar. 2017 - Present*
- Core-coordinator at Team Pixonoids, NIT-H. *Mar. 2017 - Present*
- Convener at Computer Science Engineers Community, NIT-H. *Feb. 2017 - Present*