Arnav Garg

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LINKS

Codeforces:// **gargarnav98**
Github:// **garnav98**
LinkedIn:// **arnav-garg**
Visit my site:// **garnav98.github.io**

COURSEWORK

COMPUTER SCIENCE
Data Structures & Algorithms(Ongoing)
Fundamentals of Computing

MATHEMATICS
Applied Probability and Statistics
Linear Algebra and ODE
Multivariate Calculus
Partial differential equations

OTHER RELEVANT COURSES
Introduction to Electronics
Philosophical Logic(Level II)
Applied Psychology
Communication Skills

SKILLS

PROGRAMMING
• C/C++ • Python • ROS • HTML

UTILITIES
• Bash • Git • OpenCV
• ActionLib • Scikit-Learn • Sublime
• Atom • LaTeX

SIMULATION
• Solidworks • AutoDesk Fusion
• Gazebo

PLATFORMS
• Windows • Linux(Ubuntu)
• Arduino

INTERESTS

• Competitive Programming • Puzzle
and problem solving • Machine learning
• Probability and Statistics • Sudoku
• Cubing • Card tricks

EXTRACURRICULAR ACTIVITIES

• Secretary(Robotics Club); guided
6 teams during TAKNEEK'17
(Sci. and Tech. championship) to
participate successfully.
• Junior executive, E-summit;
entrepreneurial fest of IITK
• 1st position is Stock the Stock,
E-Summit'16.
• 3rd position in Robotricks,
TAKNEEK'16 (Sci. & Tech. championship)
• 2nd position in Backdrop, GALAXY'16
(Cultural championship)

EDUCATION

Year	Degree	Institute	CPI/%
2016-2020 (expected)	B.Tech, Civil Engineering	IIT Kanpur	8.9/10.0
2016	CBSE-AISSCE(12th)	DPS Rewari	97%
2014	CBSE-AISSCE(10th)	DPS Rewari	10.0/10.0

EXPERIENCE

TREADWILL CHATBOT
SOFTWARE DEVELOPER INTERN, PROF. NITIN GUPTA | MAY 18 – JUL. 18
- Aim: To make a chatbot which communicates with depressed people using principles of CBT.
- The Rasa NLU framework(with Spacy and Sklearn Pipeline) used Sklearn Intent Classifier to classify the intents which worked on Support Vector machine (SVM) algorithm. For Named Entity Recognition, it used Conditional Random Field.
- Used Pytransitions to build an FSM model to facilitate structured flow of conversation.
- Coded chat modules for the chatbot to facilitate task oriented conversations with the user, using Cognitive Behavioural Therapy(CBT) principles.

PROJECTS

AUV-IITK (AUTONOMOUS UNDERWATER VEHICLE)
SOFTWARE SUBSYSTEM | PROF. SACHIN Y. SHINDE | FEB. 17 – FEB. 18
- The aim of the vehicle is detecting and following a line, hitting a buoy, firing torpedoes at given targets and dropping objects underwater.
- Designed and tuned a PID based controller for yaw and depth stabilization underwater using Robot Operating System (ROS).
- Implemented dynamic reconfiguration to change the parameters of the controller during runtime.
- Cleaned and documented the software architecture of the previous vehicle by the team.

MAIL-CLASSIFIER
Programming Club IITK (machine learning) | May 17 – Jul. 17
- Created a classifier capable of segregating e-mails into desired sub-categories like sports, education, music, etc. using Scikit modules.
- Used the Support Vector Machine Algorithm for classification.
- Optimized the code by tuning different parameters to reach an accuracy of 98% on the dataset.

COMPETITIVE CODING

• Secured rank 2222 in Facebook Hacker Cup 2018 Round 1.
• Max. rating 1394 on Codeforces.

ACADEMIC ACHIEVEMENTS

2018	K.N. Saluja Scholarship Awardee	Top 2 students in Civil dept.(2016)
2016	Certificate of Merit (Top 0.1%)	CBSE (Class 12th)
2014	INSPIRE Internship Science Camp	Sponsored by Govt. Of Ind.
2014	International Rank 6	International Olympiad of Mathematics
2013	International Rank 3	International Olympiad of Science

POSITIONS OF RESPONSIBILITY

• Academic Mentor, Counselling Service(IITK)
• Student Guide, Counselling Service(IITK)