YASH KUMAR BANSAL

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ACADEMIC DETAILS

Year	Degree	Institution	GPA / Marks (%)
2017	B. Tech in Mechanical Engineering - Minor Degree in **Computer Science**	Indian Institute of Technology, Delhi	8.37 / 10.0
2013	Higher Secondary (Class XII) CBSE - Secured 100% marks in **Mathematics**	Andhra Education Society Sr. Sec. School	97.4%
2011	Secondary (Class X) CBSE	Andhra Education Society Sr. Sec. School	10.0 GPA

INTERNSHIPS

Visiting Student Researcher, Wearable Bio-Robotics Group, Loughborough University, UK (May '16 – July '16) :
Project Title: Development of Sensorized Cricket Ball ; Supervisor: Prof. Massimiliano Zecca, Dept. of Electrical Engineering
- Conceptualized a low power, **miniature sensor** to be placed inside a cricket ball to measure its **spin characteristics**
- Analyzed the latest MEMS technology sensors, and designed the schematics and PCB using Altium Designer
- The product has great potential of improving the accuracy of hawk-eye technology based trajectory predictions
*Offered yearlong internship by CISCO under **Cisco International Intern Program** *CIIP 2016-17, in DevNet Apps USA team*

PROJECTS

Robominton - Robocon 2015 : *Robotics Club IIT Delhi – Prof. S.K. Saha, Prof. Kolin Paul*   [Aug '14 - Mar '15]
- Designed **shuttle detection** & **service shot** mechanism with 3 wheeled holonomic drive for badminton playing robots
- Conceptualized and implemented methods for detecting moving shuttle cock using laser-based **obstacle detection** and **trajectory tracking** using computer vision; awarded the '**Best Innovative Design Award**' at Robocon 2015

Flight Trip Planner : *Prof. Amit Kumar, Dept. of Computer Science, IIT Delhi*   [Apr '15]
- Implemented priority queue data structure optimised for changing node priority for multi-sector trip planner in **Java**

CMS-IITD Complaint Management System : *Prof. Vinay J. Ribeiro, Dept. of Computer Science, IIT Delhi*   [Mar '16]
- Developed a Complaint Management System - **web2py server** and **Android client**, customized for IITD community
- Implemented individual and community level complaints, and integrated with hierarchy tree of administration

Multiplayer Ping Pong Game : *Prof. Vinay J. Ribeiro, Dept. of Computer Science, IIT Delhi*   [Apr '16]
- Designed a multiplayer, network-based Ping Pong game in Java, with extensive support for in-game disconnection
- Implemented 2D **Physics Engine** and **AI bots** for single player mode, and used Swing, **Socket** and JSON libraries
Awarded *Letter of Recommendation* by Prof. Ribeiro for exemplary performance in course 'COP290: Design Practices'

COURSES DONE

Data Structures, Analysis and Design of Algorithms, Software Design Practices, Discrete Mathematical Structures, Linear Algebra, Calculus, Introduction to Statistics, Operations Research, Computer Aided Designing, Robotics

TECHNICAL SKILLS

Programming Languages: C,**C++**, Java, Python, C#, MATLAB, GNU Octave
Developer Software/ Tools: Android Studio, Visual Studio, Arduino IDE, Unity, LaTeX, git, Slack, MS Office.
Engineering Packages: SolidWorks, Autodesk Inventor, Creo Parametric, AnSys, RoboAnalyzer, Altium Designer

EXTRA CURRICULAR ACTIVITIES

Competitive Programming :
- Represented **India** in **ACM International Collegiate Programming Contest (ICPC) World Finals 2016**, Thailand
- **Won** the ACM ICPC Asia Regionals Onsite Contest - Amritapuri 2015 among ~1500 teams (Team Angle, IIT Delhi)
- Ranked **6th** in ACM ICPC Asia Regionals India Online Contest 2016 (Team [Matrix], IIT Delhi)
- Ranked **First** among Indians and 11th overall, obtaining **perfect score** in **Google APAC 2016** Round E
- Participated in **TopCoder Open** (TCO) India Finals and **CodeChef SnackDown** Finals in 2015
- Secured **First** rank among Indian teams in **Insomnia 2016** conducted by PAG and SDSLabs, IIT Roorkee
- Currently ranked first among IIT Delhi students and 60th nationally in CodeChef's flagship contest Series, **CookOff**

Mentorship Experience :
- Mentored freshers in month long **Robotics Club Summer Training** at Robotics Club, IIT Delhi in May 2015
- Student lecturer at week long **INOI Workshop** organized for prospective IOI participants, at IIIT Delhi Oct 2016
- Conducted orientation sessions, lectures and programming contests for **Coding Club** IIT Delhi

AWARDS AND SCHOLASTIC ACHIEVEMENTS

- Secured All India Rank **88** in JEE Mains 2013 and 373 in JEE Advanced (IIT-JEE) 2013 among 1.4 million students
- Received **Indira Award** twice from Govt. of Delhi NCT for outstanding academic performance in class 10th and 12th
- Awarded gold medal for securing **State Rank 1** in 6th **SOF International Mathematics Olympiad** in class 12th
- Felicitated with **Times NIE- Student of the Year** award by *The Times of India* for all round performance in class 11th
- Selected for **KVPY fellowship** by the Department of Science and Technology, Govt. of India in 2012