ADITYA SINGH

Phone: +(91)767 863 8709 | Email: adisingh@iitk.ac.in

EDUCATIONAL QUALIFICATIONS

Year	Degree/Certificate	Institute/School	CGPA/%
2017-2022	Double Major, Electrical & Mechanical Engg.	Indian Institute of Technology Kanpur	9.01/10.0
2017	Class XII, CBSE	S.R. Public School, Kota	93.4%
2015	Class X, CBSE	O.P. Jindal School, Raigarh	10.0/10.0

HONORS and ACHIEVEMENTS

- Awarded **MITACS Globalink Scholarship 2020** to undertake undergraduate research at Canadian Universities
- National finalist at **Honda YES 2019** awarded to **12** brights students for training leaders at Japanese universities
- Secured an **AIR 1199** in JEE Advanced 2017 and an **AIR 492** in JEE Mains 2017 (among 1.2M candidates)
- Received a **Pre-Placement Interview** (PPI) from **American Express** for winning **Analyze This 2020**

INTERNSHIPS

QUALCOMM, Bangalore *May'21- Jul'21*

Objective	• To devise an algorithm to **handle netlist mismatch error** between **RTL** and **synthesized design**
Approach	• Wrote **Tcl** scripts to generate Fan in/Fan out and top level hierarchy reports • Analyzed **skew latency** and **delay** critical net list of an **RTL synthesis** on **Design Compiler** • Created and simulated **Verilog models** for various designs including **FSMs, Pipelines, & SC FIFO**
Impact	• Increased productivity several-folds by reducing diagnosis tenure from **several hours** to **few minutes** • Awarded a **Pre-Placement Offer** (PPO) from **Qualcomm** based on the internship performance

(MITACS Internship) University of Calgary, Canada [*Revoked due to Covid19 pandemic*] *May'20-Jul'20*
Mentor: Dr. Simon Park, Professor, University of Calgary

ETA Technology (R&D), Bangalore *Dec'18*

Objective	• To assort the **optimal controller** for a **Tangential Turning and Burnishing CNC Machine**
Approach	• Created a **computer aided design** and **animation** of an operational **3-axis Horizontal Turning Machine** capable of tangential cutting of spherical and curved profiles with high precision • Presented a **PowerPoint presentation** on the needs and requirement for operating the machine
Impact	• Assorted controller for a CNC Machine capable of low tolerance for **35% productivity increase**

PUBLICATION

Static and Dynamic Characterization and Control of a High-Performance Electro-Hydraulic Actuator

Objective	• To create an active damping setup on CNC machines for increasing machining productivity
Approach	• Performed **system identification** of the EHE and modelled it to serve as an active damping device • Built **network blueprint** on an **FPGA** and the **front-end** program for the entire control architecture. • Increased **bandwidth** of the EHE to **200 Hz** with **8000 N** force loading capacity
Impact	• Increased CNC machining productivity by **50%** by enabling cutting at higher depth with higher speeds • Published a research paper in a reputed journal on Actuator Theory (*Actuators 2020, MDPI*)

POSITIONS OF RESPONSIBILITY

Vice President | Association of Mechanical Engineers | IIT Kanpur *Aug'19-May'20*

Leadership	• Led a team of **13 members** for smooth operation of year-long events conducted by AME • Served as a link to **bridge the gap** between **1200+ department students** and the faculty members by organizing various **interactive sessions and talks** such as the **'Happy Hour'**
Managerial	• Planned transparent collection and management of funds worth **INR 1.57 Lacs** over an academic year • Planned and organised **Department Freshers' Night, Research Scholar Day, Technical Workshops and Farewell** and presented year-end report to the faculty-in-charge • Planned an **Industrial visit** for students to **Ordnance Factory** & **Modern Coach Factory**
Impact	• Awarded a **Certificate of Appreciation** from the **HoD** and **Faculty-in-charge** for the tenure

EXTRA CURRICULARS

- Invited as a **speaker** for a LabVIEW workshop by AME and received **Letter of Appreciation** from the **HoD**
- Volunteered twice as **Student Coordinator** in Student Convocation Ceremony of 2018 and 2019
- Volunteered in Alumni Meet for the class of 1985 held on Nov 2019 for hassle free conduction of event
- Created graffiti art on the walls of the Open Air Theatre under the Fine Arts Club of IIT Kanpur