Yagyaansh Khaneja

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Education

IIT Roorkee, B. Tech. in Engineering Physics (CGPA 7.11/10)	2021
RDPS, Delhi (CBSE), Class XII: PCM (94.2 %)	2017
RDPS, Delhi (CBSE), Class X (CGPA 10/10)	2015

Skills

- **Programming:** Python, FORTRAN, HTML/CSS, SQLite
- **Tools:** MATLAB, COMSOL, CST MW Studio, Excel/Word/PowerPoint, LaTeX, Lightroom
- **Languages:** English (Native), Hindi (Native), French (Basic), Punjabi (Basic)

Certificates

- **Machine Learning:** Andrew Ng (Coursera) [2023]
- **Python for Everybody:** Charles Severance (Coursera Specialization) [2020]
- **Web Design for Everybody:** Colleen ven Lent (Coursera Specialization) [2020]
- **Internet: History, Technology, Security:** Charles Severance (Coursera) [2020]

Achievements

- **NGPE 2019 (Part A):** Top 10%
- **JEE 2017 (Advanced):** AIR 3188
- **JEE 2017 (Mains):** AIR 2933 (Top 0.2%)
- **Vijyoshi 2016 (Camp):** Invited Guest
- **KYPY 2015 (SA):** AIR 300 (Top 0.4%)
- **NTSE 2015 (II):** Scholar (Top **0.1%**)

Work Experience:

- ➤ **Project Manager (Volunteer) – Tech Team** [Dec 2024 – Jun 2025]
  - Organizations involved: Tarayana, GIAOS, Omniverse
  - Work: Guided the development a data dashboard (proof-of-concept) for a remote village in Bhutan (tech stack: React Native, DeepSeek,)
  - Skills: Team Management, High Level Architecture Design

- ➤ **Family Business – B2B Wholesale (pan India)** [Sep 2022 – present]
  - Location: Asia's largest wholesale market: Chandni Chowk/Chawri Bazaar (Delhi-6)
  - TL;DR: In essence, increased the efficiency of operations, **saving 4 hours per day**
    - Migrated business **accounts** from legacy systems to cloud accounting software, enabling remote work for the first time in 35 years.
    - Meticulously classified 1000s of **Steel products**, 400+ parties; making data entry organized & eliminating the need for "data cleaning" step (during data analysis) [working on Data Entry automation currently]
    - Streamlined packaging and dispatch process in warehouse using stickers, labels, item codes, and colour coding for dispatch details.
    - Started **online retail** sales channel through Meesho.
    - Designed a catalog of Door Fittings, Fasteners, Screws - simplifying products for customers
    - Learned invaluable lessons about Money, **Cash Flow**, Relationship Management, Business Ethics, Sales, etc.
  - Skills: Warehouse Management, Canva Design, Accounting, Financial Management

- ➤ **Research Intern (Energy Team) – Sonam Wangchuk** [Jan 2022 – May 2022]
  - Organization: Himalayan Institute of Alternatives (HIAL), Ladakh
  - TL;DR: In essence, assisted Sonam on his Sustainable Development projects
    - Drafted training manual for construction & working principles of Passive Solar Heated (PSH) Buildings in Ladakh.
    - Installed new 7.5 kW Solar PV; maintained existing 20 kW Solar PV and 240V (DC to AC) Lead Acid battery house.
    - Installed new Stevenson Screen; assisted in weather **data collection** (& analysis) in remote regions of Ladakh using SensorPush and Campbell Scientific weather stations.
    - Energy Analysis of Phase Change Materials (PCMs) in PSH Trombé Walls, and HVAC systems
  - Skills: Research (Thermodynamics), MS Excel, Project Implementation, Electrical

Miscellaneous

- **STEM & English Teacher** (May-Aug, 2022)
- Locations: Ladakh (SECMOL), Vietnam (Workaway)
- Taught dropouts using hands-on science/maths experiments.
- Led astronomy and photography hobby clubs.
- Skills: Communication, Empathy

- **Leadership Roles, IIT Roorkee** (2017-2021)
- Additional Secretary, Photography Section
- Coordinator, Thomso (Cultural Fest)
- Content Manager, Srishti (Tech Exhibition)

Physics Projects

- ➤ **Bachelor's Project – Silicon Photonic Switch, IIT Roorkee** [Dec 2018 – Sep 2021]
  - TL;DR: Simulated high-performance photonic switches (GST-SOI waveguides) using CST MW Studio and COMSOL.
    - Designed non-volatile switches for optical communication at 2.1µm
    - Studied Phased Array Waveguides & WDM for applications in data communication
  - Skills: EM Simulation (COMSOL, CST MW Studio), MATLAB, Waveguide Physics

- ➤ **Research Camp – Optics/Photonics, ITMO University** [May 2019 – Jun 2019]
  - Organization: ITMO University, St. Petersburg, Russia
  - TL;DR: Gained exposure to advances in Optics through active engagement with frontier research
    - Generated THz pulse radiation using laser filamentation of water.
    - Experimented with liquids of varying pH levels, to study the effect on intensity of THz generation (for the first time in the world!)
    - Studied Quantum Information, Holography, QKD Systems, Femtosecond Lasers, etc.
  - Skills: Experimental Physics, Paper Presentation, Laser Operation