We don’t expect you know everything! This list gives an idea of the type of skills broadly covered by all applicants.

Please send us a Word file or share a Google Doc after you enter the details for each row. Please do not leave any row blank - be as descriptive as possible.

**Mudit Jain**

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| **Topic** | **Detail** | **Comfort**  **(1..10) (pl add one number for each row. Do not leave blank.)** | **Interest**  **(1..10) (one number for each row)** | **Notes**  **(Pl add details. When, Where. How. Add URLs if any.**  **Do NOT leave blank. Thanks)** |
|  | Overall profile ( | Programming | Algorithm | Hardware | Clinical)  e.g. (10% | 60 % | 30 % | 0%). Shd add up to 100%. | (30%|40%|30%|0%) | (35%|20%|30%|15%) | Interested in rapid prototyping and working on real-time embedded systems  Have experience in programming, image processing and development boards. |
| Programming | General Purpose Programming (C/Python/Java/C++)  Matlab  Building Big system (10K+ lines of code)  Web programming (Sockets, Javascript, Server, Client)  Mobile phone programming (Android/Eclipse/Swift etc)  Others - please add | 8  7  1  3  1 | 10  7  6  3  3 | 1. C/Matlab : college courses  2. Python Programming:  (Have used the following librares in python : numpy,scipy,matplotlib,opencv,simplecv)  Where : LVPEI  Highlight : -to find the eigen eyes from a dataset of eye-images (for dimensionality reduction)  Repository : <https://github.com/spark1729/srujana_ml> |
| Signal Processing | DSP FIR/IIR filter design and analysis (Matlab)  Adaptive filters  Template matching/Detection  Compressive sensing  Exploiting sparsity  Others- Please add | 7  4  3  1  1 | 6  6  8  6  6 | Course at college ( BITS Pilani Hyderabad )  Project for the course DSP (Digital Signal Processing):  1. Implemented Chebysev, Butterworth, Elliptical FIR/IIR filter design on matlab  using the FDA tool and used the coefficients to implement the filter using a Digital Signal Processor. |
| Math and Algorithm | Linear Algebra  Calculus/PDE  Complex Analysis  Statistics/Probability  Non-linear methods  Optimization  Others - please add | 8  7  5  6  2  2 | 7  6  6  6  5  8 | 1. Course at college (BITS Pilani)  2. Internship at Servomax India Ltd.  3. LVPEI  Implementation :  1. Complementary Filtering / Kalman Filtering for the acccelerometer(ADXL-345) data  2. Finding the Eigen values and vectors of the Co-variance Matrix for determining the eigen eyes |
| Machine Learning | Classification (Neural Networks, SVM)  Bagging/Boosting  Clustering  Dimension reduction  Others - Please add | 3  1  5  7 | 10  5  8  8 | Partially did the course from coursera on machine learning till multiple regression.  Interested in learning the implementation of neural networks |
| Computer Vision + Computational Photography | Projective geometry  Edge/Corner detection  Optical flow  Stereo Vision / RGBD Sensors - SLAM  Object detection/recognition  Segmentation  Tracking  Clustering  Image processing  Coded Imaging/deconvolution/deblurring  Light transport  Others - please add | 4  5  3  4  6  7  6  5  8  5  3 | 8  7  6  7  9  9  9  9  10  9  9 | Image Processing  Have done a course in Digital Image Processing and have done most of my implementation in python using the above stated library |
| Electronics | Microcontrollers/Firmware  IC Sensor Interfaces  DC power conversion/Regulation  Schematics/PCB layout  FPGA/Embedded systems (e.g. Verilog)  Others - please add | 5  5  3  6  2 | 9  7  5  5  5 | Have worked on two projects basically on arduino :  1. Navigation System at Servomax India Ltd.  2. Biometric Money Transfer System using a Fingerprint Scanner under Prof. U. M . Rao.  3.Implementation of a 1553 protocol over a bus at Navigation and Embedded Systems Lab, RCI,Defence Research and Development Organisation |
| Mechanical | PCB design  Datasheet part clearance - enclosures  CAD  3D printing (new 3D printers), end to end use  Others - please add | 5  1  1  4 | 8  4  4  8 | Have used Electric and Eagle for assignments for the course in college  Also have used fritzing for designing in the embedded projects that I worked for. |
| Optics | Fourier optics  Geometrical optics  Microscopy (Confocal, OCT)  Lasers (Coherent sources)  Optical bench work (write details, add photos if any)  Hands on optical components  Other optical hardware experience  Optics software/ZMAX etc  Holography/diffraction/interferometry  Others- Please add | 3  5  2  4  2  4  2  2  3 | 7  8  6  8  3  2  5  3  7 | Understand the basic optics. Interested in learning further. |
| Ultrafast imaging and spectroscopy | Spectroscopy  MM wave devices  Multi and hyperspectral imaging  Optical devices (single photon detectors, THz detectors and spectrometers)  Scattering events  Ultrafast setups, lasers/emitters, detectors  Propagation theory | 2  6  2  2  2  2  2 | 7  4  6  6  3  6  4 | Have done college courses in EM wave propagation.(Waveguides|Transmission Lines|Antennas)  Have not much experience in handling optical devices. |
| Clinical Validation | Discussion with doctors  Understanding of human vision  Understanding of relevant Disease  Sensitivity/Specificity Testing  Others - Please add | 3  4  4  2 | 7  8  8  7 | Have a basic understanding of the eye which we had got through the talk from a doctor at LVPEI and by browsing.  Interested in learning further |
| Eye | Understanding of the eye  Eye diseases  Instrumentation for eye imaging  Software for eye imaging  Software of eye/retina image processing  Others - Please add | 4  4  4  1  5 | 9  9  8  7  8 | Have a basic understanding of the eye which we had got through the talk from a doctor at LVPEI and by browsing.  Interested in learning further |
| Leadership | Leading a Team  Working with young students/people  Communication  Raising fund and writing grant proposals  Meeting NSF/NIH/Funding agencies  Interacting with industry leaders/business decision makers  Creating PR documents  Others - Please add | 7  7  7  2  2  7  3 | 8  7  7  8  8  7  4 | Technical Convener for the fest of our college, during the process of which, I have communicated and worked with a lot of people which includes reputed speakers, entrepreneurs and fellow batchmates |
| Creative and Arts | Illustrator/Photoshop  Sketcher(Google Sketchup)  Video  Websites  Sketching (AutoCAD, Pencil Sketching) | 6  6  1  7  8 | 5  6  4  5  7 | Used Photoshop in making posters for college work  Made two sites, one for the literary fest and one for the technical fest of the campus.  Learned AutoCAD as a course at college.  Good at Pencil Sketching |
| Career Goal | Academic Position  Research Lab  Industry Position  Join a startup  Found a startup  Other  Dates available and Timeline at the LVP internship | 5  6  5  5  6 | 8  8  6  7  8 | Interested in research, in the areas on Image processing, Embedded Systems  Have worked in the following places :    1.Worked at RCI, DRDO in the Navigation and Embedded Systems Lab under Scientist Satynarayana.  2. Worked as an Intern in Servomax India Ltd.  3. Implemented a Biometric Money Transfer System under Prof. U.M.Rao |
| Other  Interests |  |  |  | Gaming, Badminton, Swimming,Reading blogs etc. |
| Weaknesses |  |  |  | Pessimism |
| Strengths |  |  |  | Communication Skills, Sincerity , Quick Learner. Self - Motivated |
| *Super powers!* | *Please explain your super power!* |  |  | I'm a batman kind of guy (does't have any superpowers, still a super hero) |