

Centre for Railway Information Systems (CRIS)
Chanakyapuri, New Delhi – 110021

Appointment of (i) Consultant - Image Processing and Computer Vision Expert
AND (ii) Consultant - Condition-Based Maintenance Expert

The Centre for Railway Information Systems (CRIS) is a Registered Society under the Ministry of Railways. It develops and manages critical Information Technology applications of the Indian Railways, including the well-known Passenger Reservation System, Freight Operation Information System, Unreserved Ticketing System among others. CRIS possesses state-of-the-art infrastructure at its offices in New Delhi, Kolkata, Mumbai, Chennai, and Secunderabad.

CRIS is comprehensively implementing CCTV surveillance systems across railway coaches, locomotives, stations, and associated premises. To facilitate the implementation of the CCTV project, there is a requirement for two consultants: one for the position of Image Processing and Computer Vision Expert, and another for Condition-Based Maintenance Expert. Selection would be based on the interview of the candidates.

(1) IMPORTANT DATES

Particulars	Date
Opening Date for Application	18.11.2024
Closing Date for Application	17.12.2024

(2) REQUIREMENT OF POSTS

Post	No. of positions	Age Limits	Scale of Pay
Consultant: Image Processing and Computer Vision Expert (IP&CVE)	1	25- 40 years (as on 01/01/2025)	Lumpsum pay equivalent to 7CPC Level-11/12 (Approx Rs. 155000/Rs. 178000 p.m. respectively) of technical employee of CRIS as per experience & expertise.
Consultant: Condition-Based Maintenance Expert (CBME)	1	25- 40 years (as on 01/01/2025)	Lumpsum pay equivalent to 7CPC Level-11/12 (Approx Rs. 155000/Rs. 178000 p.m. respectively) of technical employee of CRIS as per experience & expertise.

- (i) No. of Positions indicated above are tentative only and the same may increase / decrease based upon requirement of CRIS.
- (ii) Candidates should note that only the Date of Birth recorded in the Matriculation / Secondary School Examination (Class 10) Certificate or an equivalent certificate will be accepted by CRIS for determining the age eligibility criteria and no subsequent request for its change will be considered or granted.

(3) AGE RELAXATION:

Relaxation in maximum age limit for the following categories is given as indicated in the table below subject to submission of requisite certificates:

S. No.	Categories	Relaxation in upper age limit
a)	OBCs (non-creamy layer)	3 years
b)	SC/STs	5 years
c)	Persons with Benchmark Disabilities (UR)	10 years
d)	Persons with Benchmark Disabilities (OBCs-NCL)	13 years
e)	Persons with Benchmark Disabilities (SC/ST)	15 years

(4) PERSONS WITH BENCHMARK DISABILITIES (PwBD)

Designation	Functional Requirements	Suitable Category of Benchmark Disability
1. Consultant: Image Processing and Computer Vision Expert (IP&CVE) 2. Consultant: Condition-Based Maintenance Expert (CBME)	S, ST, W, BN, MF, SE, C	a) D, HH b) OA, BA, OL, BL, OAL, CP, LC, Dw, AAV c) ASD (M), SLD, MI d) MD involving (a) to (c) above

Abbreviations Used:

PwBD – Persons with Benchmark Disability, S=Sitting, ST=Standing, W=Walking, BN= Bending, MF=Manipulation with Fingers, SE=seeing, C=Communication, D - Deaf, HH – Hard of Hearing, OA – One Arm, BA – Both Arms, OL – One Leg, BL – Both Legs, OAL – One Arm and One Leg, CP – Cerebral Palsy, LC – Leprosy Cured, Dw - Dwarfism, AAV – Acid Attack Victims, ASD(M) – Autism Spectrum Disorder (Mild), SLD – Specific Learning Disability, MI – Mental Illness, MD - Multiple Disabilities.

(5) ELIGIBILITY

A. Consultant: Image Processing and Computer Vision Expert (IP&CVE)

Post	Mandatory Qualification	Desirable Qualifications	Minimum Experience
Consultant: Image Processing and Computer Vision Expert (IP&CVE)	B.E/B.Tech in Computer Science/ Electrical/ Electronics (Minimum Marks 60%) Or Masters in relevant field	<ol style="list-style-type: none"> 1. Theoretical Foundation <ol style="list-style-type: none"> (i) Computer Vision Concepts: Expertise in core computer vision techniques, including edge detection, segmentation, feature extraction, object detection, image filtering, transformation, and image registration. (ii) Machine Learning & AI: Familiarity with deep learning frameworks (e.g., CNNs, RNNs) and experience applying them to vision tasks such as object recognition, image classification, and semantic segmentation. 2. Hands-on Experience <ol style="list-style-type: none"> (i) Practical Knowledge: Proficiency in implementing and tuning algorithms in real-world applications, such as medical imaging, autonomous vehicles, augmented reality, or robotics. (ii) Programming Proficiency: Strong skills in programming languages used for image processing (e.g., Python, C++, MATLAB) and familiarity with libraries such as OpenCV, TensorFlow, PyTorch, Keras, and scikit-image. (iii) Optimization: Expertise in optimizing algorithms for performance, especially in resource-constrained environments (e.g., mobile devices, embedded systems). <p>Following shall be added value for considerations:</p> <ol style="list-style-type: none"> (i) Candidate with Ph.D in relevant field, or, (ii) Candidate formally registered/admitted to 	5 years working experience in relevant field

		<p>the candidacy of Ph. D. degree, or</p> <p>(iii) Candidate registered for Ph.D who has submitted a research plan and has completed the course work (including any compulsory audit courses).</p> <p>(iv) The applicant with at least 5 papers/articles in reputed peer reviewed conferences/journals.</p>	
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B. Consultant: Condition-Based Maintenance Expert (CBME)

Post	Mandatory Qualification	Desirable Qualifications	Minimum Experience
<p>Consultant: Condition Based Maintenance Expert (CBME)</p>	<p>B.Tech in Mechanical/ Electronics / Electrical (Minimum Marks 60%) Or Masters in relevant field</p>	<p>1. Deep Understanding of Maintenance Strategies Failure Modes and Effects Analysis (FMEA): Expertise in FMEA and understanding of equipment failure patterns, which helps in prioritizing critical assets and identifying key failure indicators.</p> <p>2. Technical Expertise Vibration Analysis, Thermography, Oil Analysis, and Ultrasound: Proficiency in using these techniques and tools to monitor the health of equipment and detect early signs of failure. Data Collection & Sensors: Strong knowledge of sensor technologies (e.g., vibration sensors, temperature sensors, and acoustic sensors) and how to integrate them into a CBM system for real-time monitoring. Data Interpretation: Ability to analyze and interpret machine data to identify patterns and anomalies that signal potential failures. This includes understanding of signal processing techniques and time-series analysis.</p> <p>3. Data Analytics and Predictive Modeling Predictive Analytics: Familiarity with machine learning techniques and data-driven models used for predicting equipment failures based on historical and real-time data. Trend Analysis: Ability to identify and track degradation trends in equipment performance and link those trends to the remaining useful life (RUL) of assets.</p>	<p>5 years working experience in relevant field</p>

		<p>Software Expertise: Proficiency with CBM and predictive maintenance software platforms (e.g., IBM Maximo, SAP PM, GE APM), and the ability to work with CMMS (Computerized Maintenance Management Systems).</p> <p>Following shall be added value for considerations:</p> <p>(i) Candidate with Ph.D in relevant field, or,</p> <p>(ii) Candidate formally registered/admitted to the candidacy of Ph. D. degree, or</p> <p>(iii) Candidate registered for Ph.D who has submitted a research plan and has completed the course work (including any compulsory audit courses).</p> <p>(iv) The applicant with at least 5 papers/articles in reputed peer reviewed conferences/journals.</p>	
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Considering the specialized nature of the work and the initial short-term contract of one year (which may be extended as needed), the initial pay may be fixed at a lumpsum equivalent to Level 11 of 7CPC for candidates with five years of experience. For those with six years or more of experience, the pay may correspond to Level 12 of 7CPC.

(i) Candidates should note:

- Rounding off %age of marks in essential qualification will not be acceptable under any circumstances for consideration for appointment. The fraction of percentage so arrived will be ignored i.e. 59.99% will be treated as less than 60%.
- Selection would be provisional subject to verification of character antecedents, educational qualifications, and other required certificates.
- **Period of Employment:** The appointment to the advertised posts will initially be on a contractual basis for a period of 01 years. Further extension of the contract beyond one year will be extended from time to time as per requirements. The emoluments can be reviewed after one year based upon the performance during the contract period.

(ii) MARKS IN THE QUALIFYING DEGREE EXAMINATION:

1. For the purpose of this recruitment, if no formula has been specified by the university/ institute for conversion of CGPA/ GPA into equivalent percentage marks, the following formula will be used.
*Marks in percentage = 10*CGPA (notional)* (conversion formula taken from IIT-Delhi, July 2017).
2. For the purpose of calculating the aggregate final marks, the method specified by the institute/ university will be followed. In case no method is specified by the concerned institute/ university, the aggregate percentage of all semesters/years would be taken.

(6) APPLICATION FEE

No Application Fee

(7) HOW TO APPLY

1. Candidates must apply in the prescribed form which is available as Annexure 'A' of this advertisement on CRIS website. No other format of application will be accepted.
2. Detailed Instructions for filling online application are available on the 'Instruction Page'. Candidate should read the instructions carefully before making any entry or selecting options.
3. After filling the application (in MS word file), the candidates are required to take printout of the application and send the application by registered post to Chief Manager/HRD, Centre for Railway Information Systems, Chanakyapuri, New Delhi-110021 and on email id recruitment2024.cris@cris.org.in.
4. Applications received through any other mode will not be accepted and will be summarily rejected.
5. Candidates should have a valid personal email id and should ensure that it is active during the entire recruitment process. All important communications will be sent on the same registered email id. (Please ensure the email sent to this mail box is not redirected to your junk/spam folder)
6. Candidates should take utmost care in furnishing/providing the correct details while filling up the application.
7. Candidates are advised in their own interest to apply much before the closing date and do not wait till the closing date.
8. Candidate will be required to submit following documents with the application:
 - One recent passport size colored photograph,
 - Educational Qualification(s)
 - Experience Certificate(s)
 - Caste certificate (SC/ST/OBC(NCL), if any,
 - EWS certificate, if any
 - PwBD certificate, if any
 - No Objection Certificate (NOC) from current employer.

(8) MODE OF SELECTION:

Interview at CRIS HQ, New Delhi (No TA/DA will be given to appear for interview)

(9) MEDICAL FITNESS

Appointment to the above posts will be subject to the candidate being medically fit as per medical standard of C-1 (Cey one) category as prescribed in Indian Railway Medical Manual. Selected candidates shall be required to get their Pre-Employment Medical Examination done in Railway Hospital as directed by CRIS. Acceptance of joining will be subject to the Medical Fitness Certificate issued by the Medical Authority.

(10) POSTING

The selected candidates could be posted at CRIS Headquarters in New Delhi or at any of its Regional Offices at New Delhi, Kolkata, Mumbai, Chennai, and Secunderabad (Hyderabad), or any project site in India for specified duration, as per the need and requirements of CRIS.

(11) INSTRUCTIONS FOR DOCUMENT VERIFICATION:

- i) Shortlisted candidates will be called for verification of the original documents
- ii) During document verification, the candidates will have to produce their original certificates along with one set of self-attested photocopies.
- iii) No Objection Certificate: Candidates who are employed on regular basis in Government/Semi-Government/Public Sector Undertaking/ Autonomous bodies are required to produce "No Objection Certificate" from the present employer at the time of document verification. In the absence of "No Objection Certificate", the candidature of such candidates will be treated as cancelled.
- iv) **Service Agreement** : The selected candidates shall impart knowledge Transfer (KT) of the work done during the contract period. The candidate has also to execute Non Discolusure Agreement (NDA) as per CRIS format before joining.
- v) **Identity verification**: If the identity of the candidate is in doubt or he/she is not able to produce the requisite documents or there is mismatch of information in the documents, his/her candidature will be treated as cancelled.
- vi) Appointment of successful candidates will be subject to verification of original documents relating to Age, Qualifications, Experience etc. followed by Medical fitness certificate issued by the Medical Authorities as prescribed under the rules of CRIS.

(12) GENERAL INFORMATION AND INSTRUCTIONS

1. Only Indian Nationals are eligible to apply.
2. All qualifications should be from a University/Institute recognised by AICTE/UGC.
3. Only applications in prescribed form are allowed and to be sent to CRIS and email ID mentioned in 'How to Apply' only. Applications sent through other modes will not be accepted/ entertained and no further intimation will be sent in this regard.
4. Candidature of a candidate is liable to be rejected at any stage of the recruitment process or after recruitment or joining if any information provided by the candidate is found to be false or the candidate is not found to conform to the eligibility criteria advertised.
5. All correspondence with CRIS should be through the registered email id of the candidate.
6. Candidates shortlisted for selection are required to submit their original Engineering Degree certificate and mark sheets of all semesters/years as documentary proof of having passed the qualifying Engineering Degree examination in relevant discipline/branch with minimum prescribed percentage of marks as indicated above, prior to joining.
7. The decision of CRIS in all matters relating to eligibility, acceptance or rejection of the applications, mode of selection, place of first posting, etc. will be final and binding on the candidates and no enquiry/ correspondence will be entertained in this regard.
8. CRIS reserves the right to cancel/restrict/enlarge/modify/alter the recruitment process if the need so arises, without issuing any further notice or assigning any reason whatsoever.
9. Legal jurisdiction will be of NCT of Delhi in case of any dispute/legal point.
10. All further communications in this regard will be displayed on our website <http://www.cris.org.in>.
11. CRIS Management has the right to terminate the contract at any time.

(13) ACTION AGAINST MISCONDUCT:

- a) Candidates are advised in their own interest that they should not furnish any documents/ information that are false, tampered, fabricated or should not suppress any material information while filling up the application.
- b) At any stage of recruitment or later, if a candidate is or has been found guilty of any misconduct as mentioned below, his/her candidature may be cancelled:
 - Using unfair means during Document Verification/ Medical; or
 - Impersonating or procuring impersonation by any person; or
 - Misbehaving during Document Verification; or
 - Submitting false certificates/ documents /information or suppressing any information at any stage; or
 - Giving wrong information regarding his/her category