



DIRECTORATE OF INDUSTRIAL LIAISON

NED University of Engineering & Technology

University Road, Karachi-75270 Pakistan

Tel: (+92-21) 99261261-8, Ext: 2274, 2218, Email: dil@neduet.edu.pk



'SAY NO TO CORRUPTION'

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About the Company

We build a camera-based production monitoring system for factories in Pakistan. We use the analog cameras and DVRs that factories already have, run AI on the video, and turn it into live production counts, efficiency numbers, and WhatsApp alerts.

Most factories here run at 35-55% efficiency and track production by hand on a whiteboard. We replace the whiteboard.

Important: We monitor workstations, not individual workers. No facial recognition, no employee names, no per-person scores. We measure stations and lines. This is a hard rule in our system design, and we will ask you about it in the interview.

Open Roles

- Computer Vision Engineer
- Edge / Video Systems Engineer
- Industrial Engineer

All roles are based in **Karachi**, full-time, with regular factory visits.



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Computer Vision Engineer

Location: Karachi Type: Full-time Level: Senior

About the Role

You own the accuracy of our production counts. If the count is wrong, the dashboard is wrong and the customer stops trusting us. Everything else depends on this.

What You Will Do

- Train and fine-tune object detection models (RT-DETR, YOLOX) to detect people, bundles, and machines
- Set up pose estimation (RTMPose) to detect whether an operator is working or idle
- Implement object tracking (ByteTrack) to count pieces crossing a line
- Build the event logic that turns noisy model output into clean events like "station idle" or "line stopped" — this includes debouncing and excluding break times and prayer times
- Manage the data pipeline: labelling in CVAT, dataset versioning, handling different lighting conditions
- Use anomaly detection (Anomalib) for rare events where we don't have enough training data
- Export models to ONNX and TensorRT for fast inference

Requirements

- 4+ years experience in computer vision, with at least one system deployed in production
- Strong Python and PyTorch
- Experience with object detection and multi-object tracking
- Experience with OpenCV
- Experience exporting models to ONNX or TensorRT
- Understanding of open-source licences (we only use Apache 2.0 and MIT, not AGPL)

Good to Have

- Pose estimation experience (RTMPose, MMPose, MediaPipe)
- Anomaly detection on imbalanced data
- Experience with Grounding DINO or SAM for auto-labelling
- Urdu

How We Evaluate

We will give you real footage from a factory sewing line and a known piece count. You can use any pretrained model. We want to see how you approach the problem.

Note: We do not do research. We use existing pretrained models and spend our time on data quality and event logic. If you want to invent new architectures, this is not the role.



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'SAY NO TO CORRUPTION'

Edge / Video Systems Engineer

Location: Karachi Type: Full-time Level: Senior

About the Role

A model that works in a notebook is not a product. You make it run on 8 cameras, on a small PC in a factory cupboard, through daily load shedding, for months, without anyone visiting the site.

What You Will Do

- Pull video from factory DVRs (Hikvision, Dahua) using RTSP sub-streams
- Build a fallback method using an HDMI splitter and a USB capture card, for DVRs where RTSP is locked or the password is lost
- Test and respect DVR connection limits — most DVRs only allow 4–8 concurrent streams, and going over can stop the factory's recording
- Build the video pipeline with hardware decode (GStreamer / DeepStream / NVDEC)
- Publish events over MQTT with a local buffer so nothing is lost during internet outages
- Extract short video clips around each downtime event
- Blur faces in the pipeline before anything is written to disk
- Build OTA updates and remote diagnostics so we can fix boxes without travelling
- Harden the hardware for Pakistan: UPS, voltage stabiliser, dust filters, thermal management

Requirements

- 5+ years in systems, embedded, or video engineering
- Strong Linux (systemd, Docker, debugging on constrained hardware)
- C++ and/or strong systems-level Python
- GStreamer, FFmpeg, or DeepStream — real pipeline work, not just CLI usage
- Experience with RTSP and consumer DVR/NVR firmware
- TensorRT or ONNX Runtime deployment
- Experience with systems that must survive network outages

Good to Have

- MQTT experience
- NVIDIA Jetson or edge GPU deployment
- Fleet update systems (Balena, K3s)
- Urdu

How We Evaluate

We will describe a real site: locked DVR, unknown password, isolated network, 16 cameras where we need 6, and a 4-hour daily power cut. We want to hear how you would approach the first day.

Note: This is not a cloud role. We process video at the edge because bandwidth, power, and privacy do not allow otherwise. If your experience assumes reliable power, reliable internet, and physical access to servers, this will be a difficult fit.



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Industrial Engineer

Location: Karachi Type: Full-time Level: Senior

About the Role

Our engineers can build the system but they cannot walk onto a factory floor and know that the hourly production number was rounded up. You can. You are the link between what we build and what a factory actually needs.

What You Will Do

- Run site surveys: check DVRs, camera angles, power, load-shedding schedule, and where our equipment can be installed
- Define how we calculate efficiency, so our numbers match how the factory's own IE department calculates them
- Run shadow mode during pilots: collect data for two weeks, then reconcile every difference against the factory's manual records
- Turn our bottleneck data into clear recommendations — for example, "move one operator from Station 9 to Station 14, expected gain 9%"
- Translate efficiency gains into rupees, because that is what the factory owner cares about
- Work with floor supervisors so they see the system as helpful rather than as a threat
- Make sure the system supports SMETA, WRAP, and BSCI compliance audits rather than creating problems for them
- Review product decisions and tell us when something will not work on a real floor

Requirements

- 4+ years in the Industrial Engineering department of a Pakistani manufacturer — garment, textile, knitwear, surgical, or sporting goods
- Hands-on experience with SAM/SMV setting, line balancing, and efficiency reporting
- Fluent Urdu and working English
- Willing to spend most of your time on factory floors
- An existing network of production and IE managers

Good to Have

- Experience with SMETA, WRAP, BSCI, or Higg audits
- Experience with an MES or ERP rollout
- Lean, TPM, or SMED background
- Comfortable reading and questioning data

How We Evaluate

We will ask you to walk us through a line balancing exercise you have actually done, and what happened to output afterwards.

Note: This is not a sales or support role. You will sit in engineering meetings and have a say in what we build. For example, you are the reason we exclude prayer breaks from idle detection — that is the kind of knowledge we need.

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How to Apply

Send us your CV along with a short note: Interested candidates can send their CVs to hr@bytesplatform.com.

- **Computer Vision Engineer** — tell us about a model you deployed and how it failed in production.
- **Edge / Video Systems Engineer** — tell us about the most unreliable hardware you have had to make work.
- **Industrial Engineer** — tell us about a line you balanced and how much output improved.

All roles are based in Karachi. You will meet the founder and visit a factory floor before accepting an offer.

We reply to every application.