BAMALWA TECH

Pulsed-Power Engineer

Early-stage defence startup building phased-array High-Power Microwave (HPM) directed-energy systems for counter-drone applications.

Level: Junior (0–3 yrs) · Location: Kolkata · Type: Full-time

You'll simulate the pulsed-power chain that drives each element of our HPM array — pulse-forming lines, switching, and high-voltage charging — working from architectures and specs set by the senior team. A great fit for a recent graduate who's strong on circuit fundamentals and wants hands-on R&D.

WHAT YOU'LL DO

- Build SPICE / PSpice models of our pulsed-power building blocks — Blumlein pulse-forming lines, spark-gap switching, and NLTL sharpeners — and run parametric sweeps on charge voltage, line impedance, and timing.
- Model the HV charging chain (programmable PSU, charging bus, per-element taps) and study charge time, ripple, and energy delivered per shot.
- Set up Simulink / MATLAB models for trigger timing, pulse-repetition control, and system-level sequencing where useful.
- Extract the figures that matter — pulse risetime, peak voltage and current, waveform shape, and jitter — and validate them against analytical estimates.
- Document every model clearly — assumptions, inputs, results, plots — so it's reproducible by the team and our academic collaborators.
- Cross-check simulation outputs against bench measurements as hardware comes online and flag discrepancies.

WHAT YOU'LL NEED

- An EE degree with solid circuit and pulsed-power / high-voltage fundamentals.
- Hands-on experience with SPICE-family tools (LTspice, PSpice or similar) and working MATLAB skills.
- Comfortable learning from technical papers and iterating quickly.

NICE TO HAVE

- Exposure to transmission-line modelling, transient/switching circuits, or high-voltage design — a bonus, not a requirement.

TO APPLY

Send a short note and your CV to **yashovardhan@bamalwa.com**

Or reach us at **+91 98310 90745**