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VFD Repairing Course

by Vikram sir

Presented By

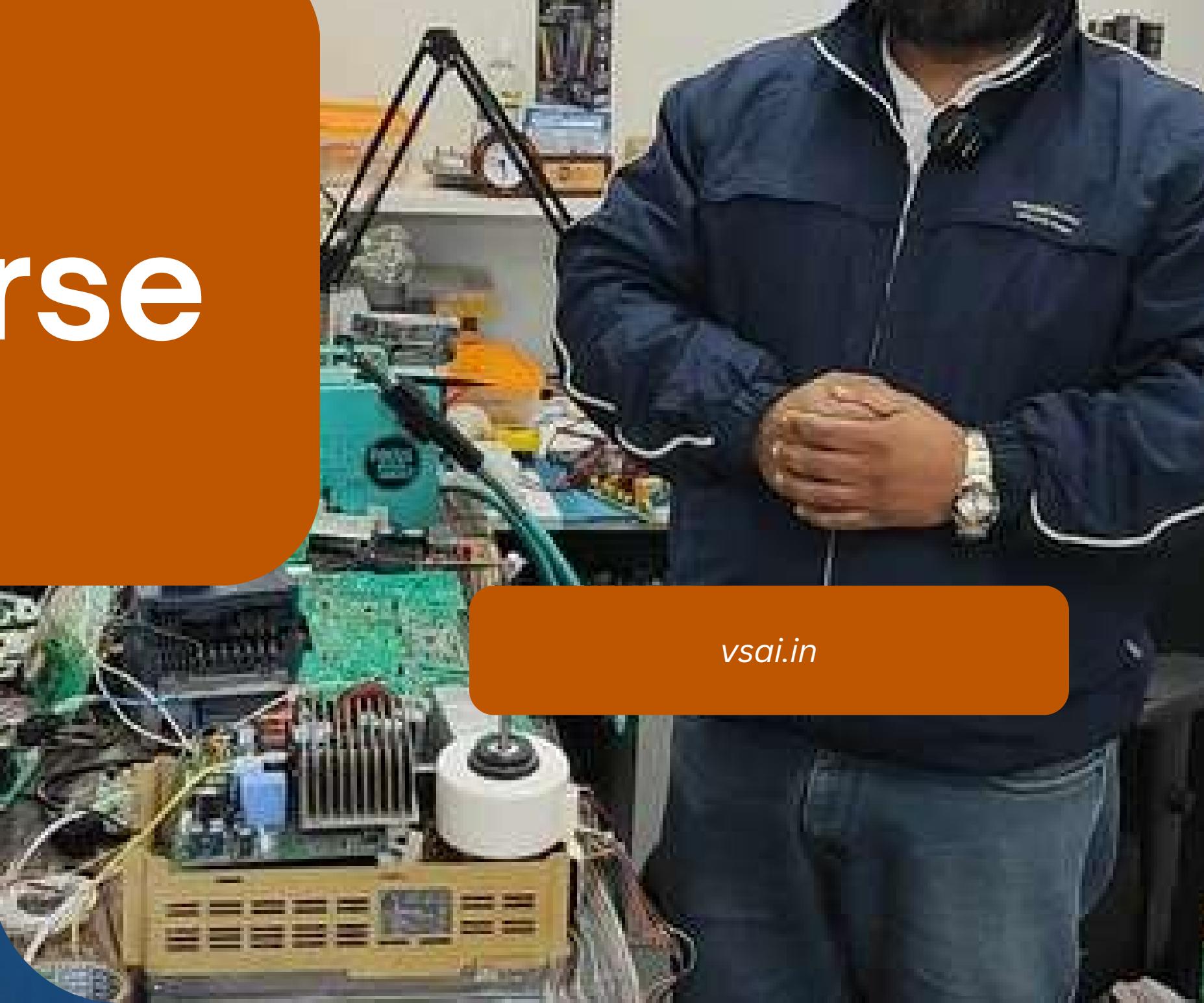
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INVERTER AC PCB
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Practical classes

- We provide practical class to students from Day 1
- Students are provided with PCB from institution without extra charge
- There is no time limit for students to use the practical class



Theory Classes

- Trainers with over 23+ years of experience
- Doubt clearing sessions
- Classes uses the modern facility

Course Overview

- What is VFD
- Difference between single & phase VFD board
- Difference between VFD & servo-drive
- How to identify VFD PCB
- All components (22 types)
- Identification & Damage checking of board
- Check supply on board
- PCB reading and tracing Fault finding by error codes
- Power supply, sensor, fan section, EPROM programme, communication section and much more etc.
- Tracing and repairing section
- Use of DSO in PCB repairing
- PCB matching, equivalent finding of all component
- IPM testing and working, IPM changing
- Micro controller testing & working
- PFC testing & working inverter section
- What is connector & its use



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SYLLABUS

Basic electronics

- Introduction of (Volt, current, watt)
- Introduction of (AC/DC)
- How to use digital multimeter

Identification of electronics component

- Resistor, capacitor, transistor, mosfet, diode, crystal, IC, transformer, Fuse, Jumper, Thermistor, switch, Coil etc.





resistor

- Denoting letter of resistor
- Identification & testing
- Color coding concept
- SMD resistor value
- Types of resistor

capacitor

- Denoting letter of capacitor
- What is a Capacitor
- Types of capacitor
- Capacitor testing



Diode

- Denoting letter and symbol of diode
- Working concept of diode
- Types of diode
- Bridge rectifier Diode
- concept Testing of Diode

Transistor

- Denoting letter and symbol of transistor
- Working concept of transistor
- Types of Transistor
- SMD and normal transistor
- identification Testing of transistor





Mosfet

- Denoting letter and symbol of Mosfet
- Working concept of Mosfet
- Types of Mosfet
- Testing of Mosfet

Coil

- Denoting letter and symbol of coil
- Looking concept of coil (Inductor)
- Types of coil
- Testing of all types of coil



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IC/CHIP

- Identification of IC
- Working concept of IC
- Testing of IC on board

Transformer

- Denoting letter and symbol of transformer
- Working concept of transformer
- Types of transformer
- Testing of transformer





Crystal

- Symbol of crystal
- Working concept of crystal
- Testing of crystal

Fuse

- Denoting letter and symbol of Fuse
- Working concept of fuse
- Workig of Fuse



Thermistor

- Denoting letter and symbol of thermistor
- Working of thermistor
- Types of Thermistor
- Testing of Thermistor

Varistor

- Denoting letter and symbol of Varistor
- Working of Varistor
- Testing of Varistor



Thermistor



Battery

- Working concept of battery
- Testing of battery

Switch

- Jumper
- Connector
- Regulator IC
- Opto coupler
- Relay



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VFD components and parts

- Compressor
- AC/DC motor
- Contractor
- Relay
- Regulator IC
- TRIAC
- SSR - Solid state Relay
- Bipolar liner IC
- 7 segment LED display
- Buck converter IC
- IGBT - Insolated Gate Bipolar Transistor
- IPM - Intelligent/Inverter Power Module
- Connector
- Gate driver circuit
- Keypad
- Micro-controller & many more components





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Soldering & De-soldering Practice

- How to remove & sold all types of components in E-vehicle like ~ Resistor, Capacitor, Diode, Transistor, Mosfets, etc.

Basic of VFD

- About details of VFD types
- What is HP in VFD system
- How to calculate VFD for load capacity
- Details of single phase and three phase VFD



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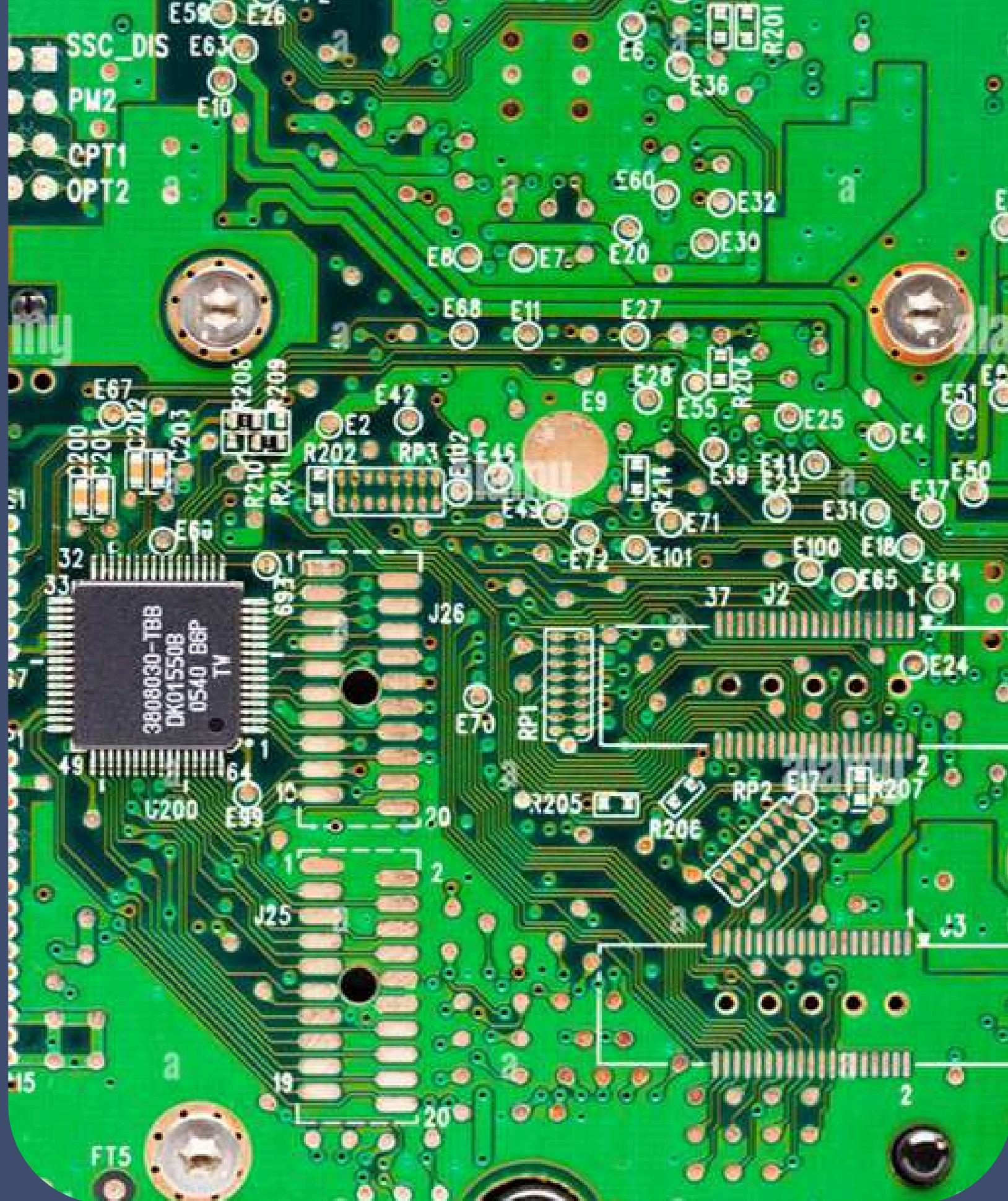
PCB details

Types of PCB

What is the work of main PCB

What is the work of inverter PCB of IPM/IGBT

What is the work of inverter PCB of fan motor





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**What is use of noise
filter section**

**What is IPM/IGBT & its
use**

**How to set wiring
between all PCB**

**How to check separate
PCB**

**check PCB with 3 phase
supply**



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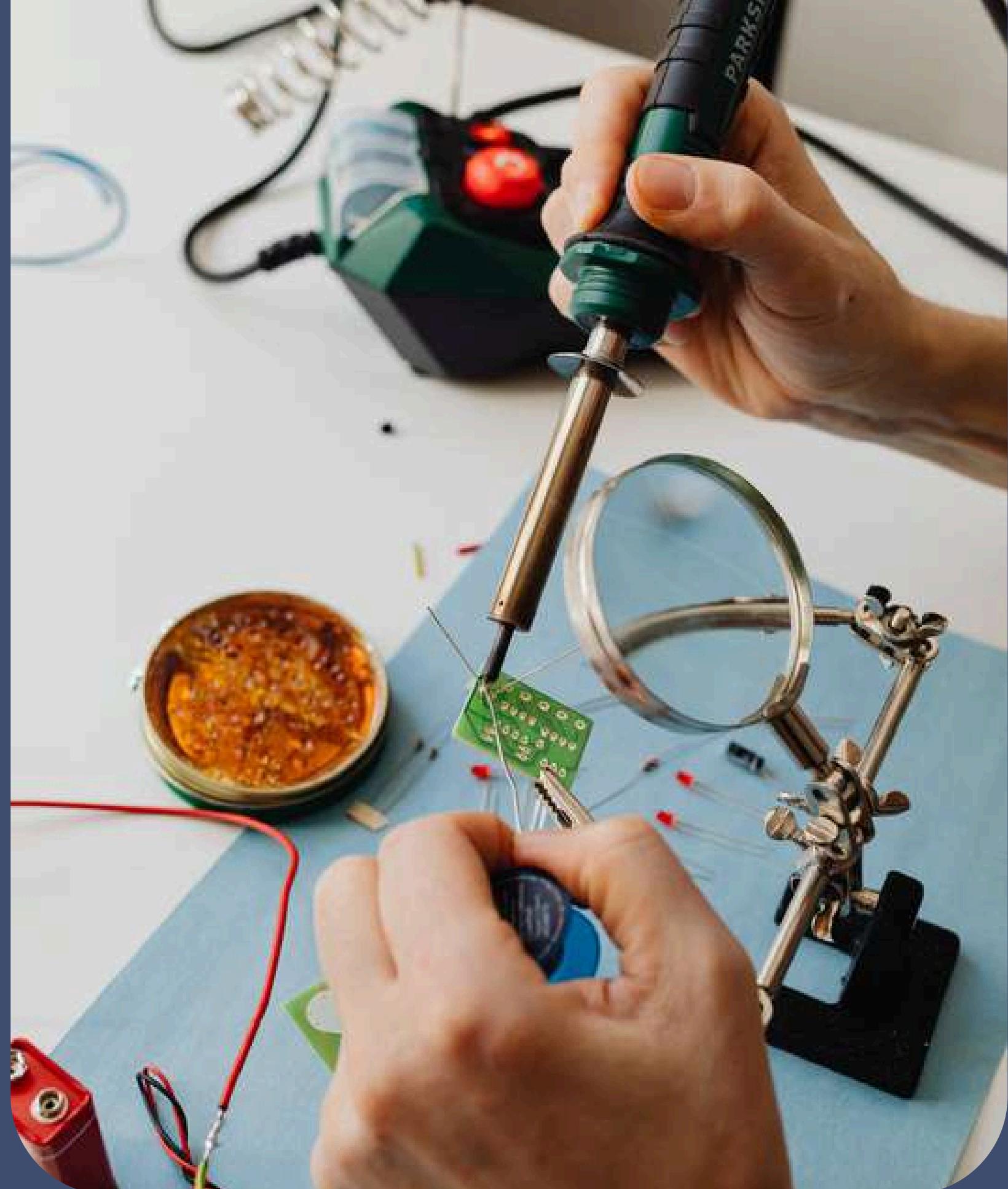
check PCB with single phase supply

How to check voltage

Check on board testing of test point

Check signal by DSO machine

Check signal by multimeter





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**Check signal in
communication
between PCB**

**Check all section step
by step**

**how to find the error
code**

**How to diagnose the
fault in section**

**Understanding working
concept of all section**



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Check all parts

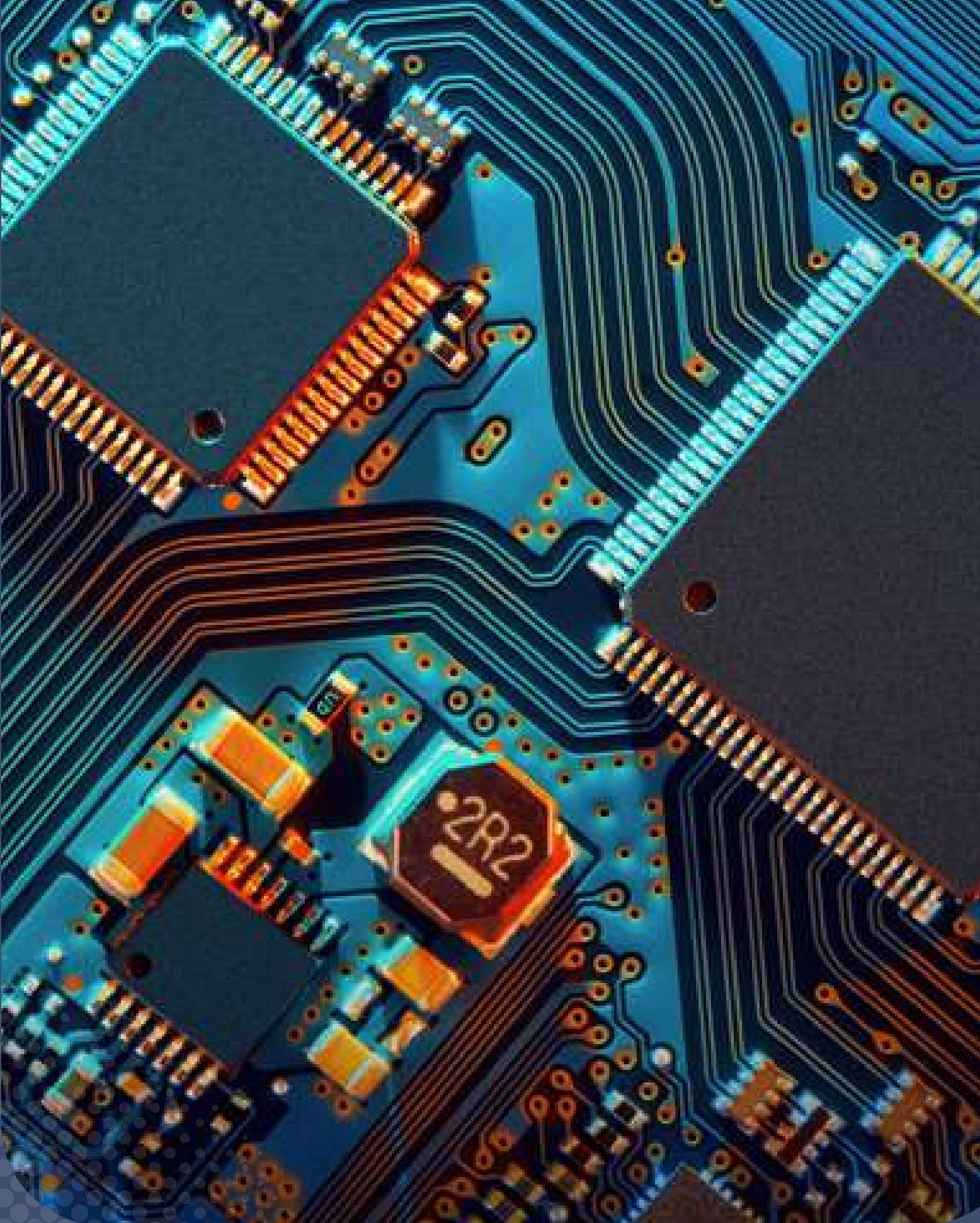
How to change
IPM/IGBT

Replace
parts/components

connection of
communication

Increase or decrease
motor speed by setting





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**Check display PCB
main PCB and inverter
PCB**

**Check IPM/IGBT input &
output signal**

**Check voltage on
IPM/IGBT signal**

**What is VFO/FO of
IPM/IGBT**

**Identification of PCB &
company**



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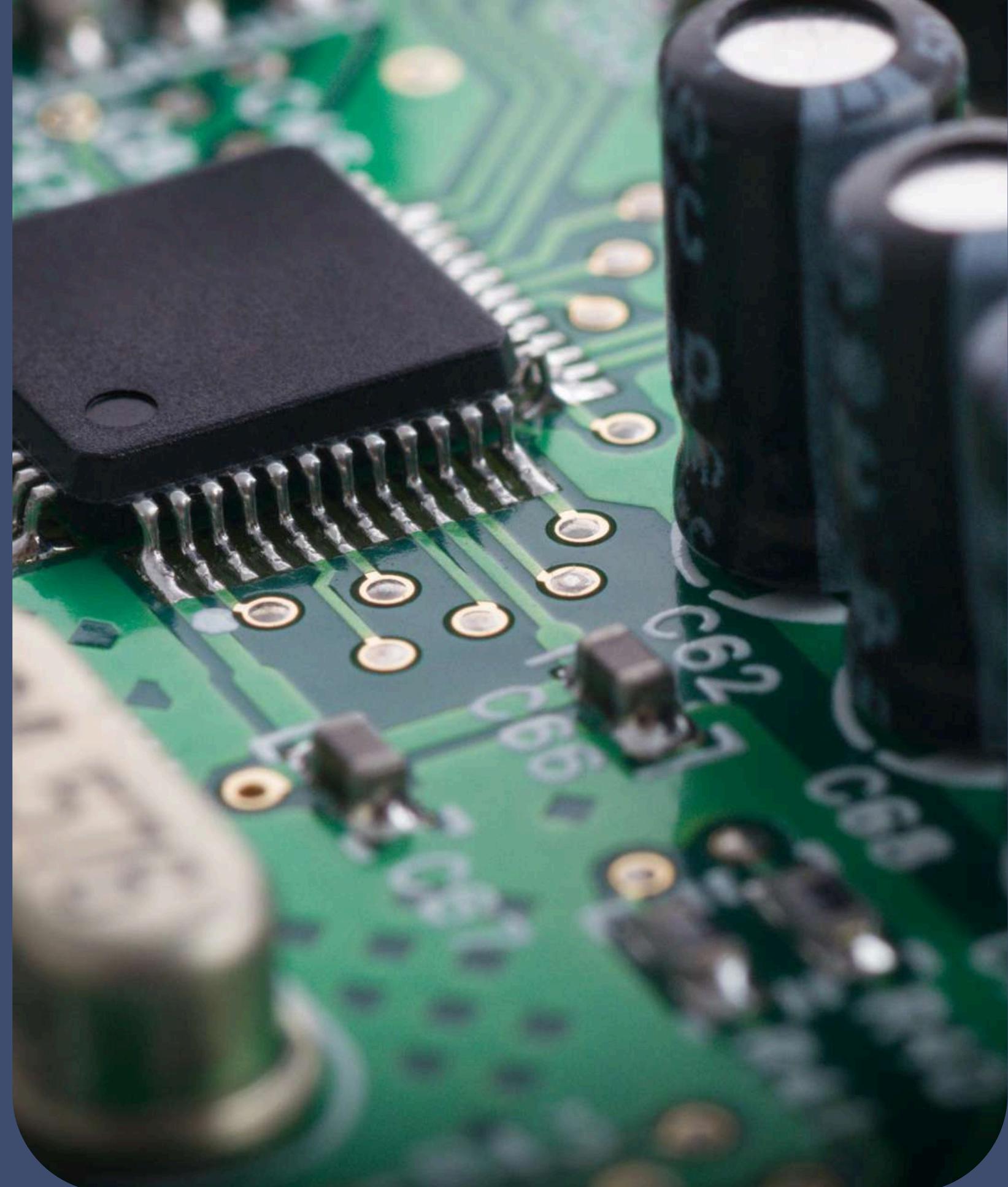
Details of every connector of PCB

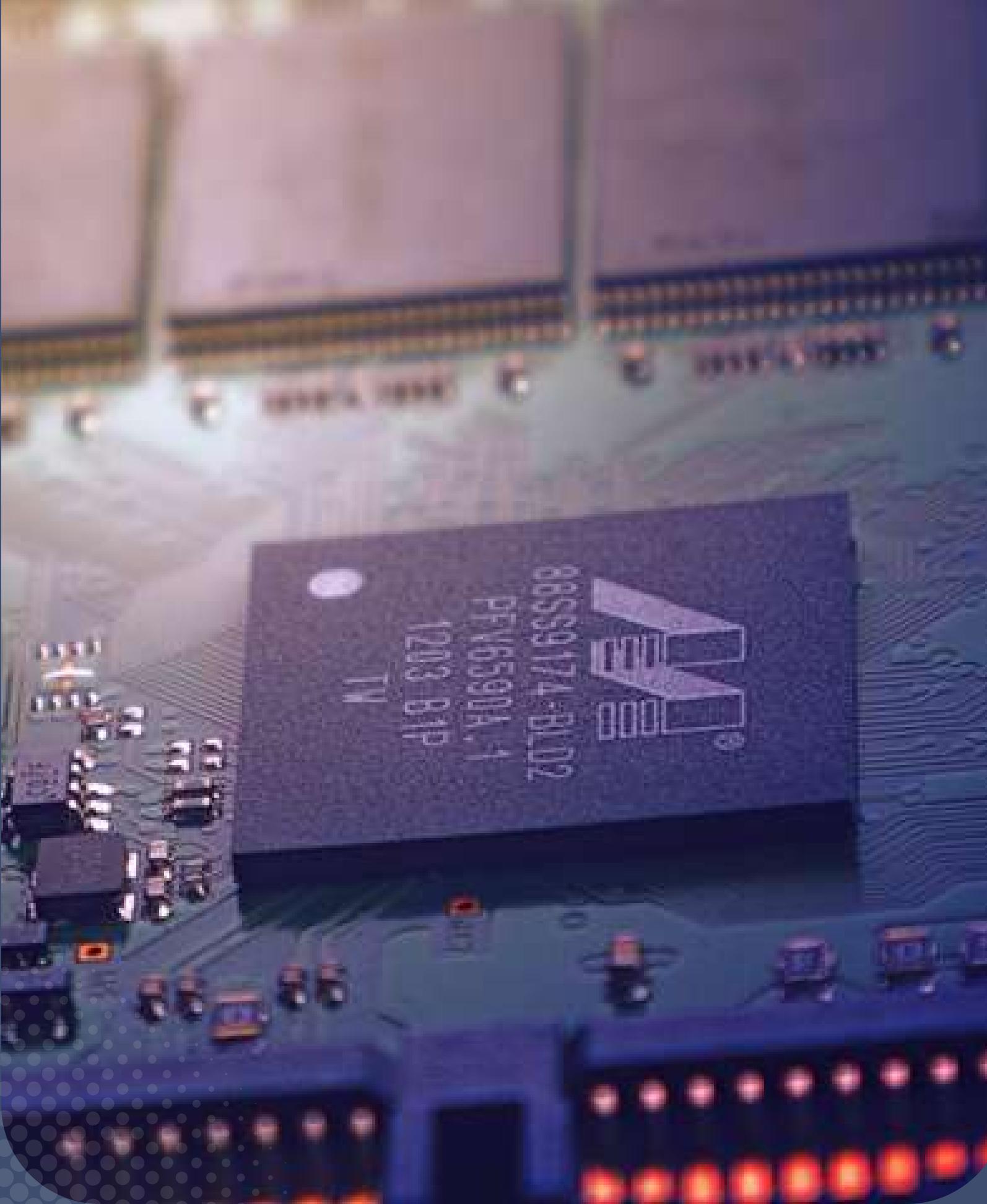
Full detail about all sensor

Full detail about all section

What is over current circuit

Check fan motor





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About high/low voltage protection

About high/low current protection

How to repair power supply

How to bypass power supply

How to check board in shorting in circuit

Multi type PCB of VFD



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Improving employability skills

- VFD PCB resume writing skills
- VFD PCB interview skills empowering
- VFD PCB empowering of interpersonal relationship
- VFD PCB stress management
- VFD PCB positive attitude development
- VFD PCB self motivation
- VFD PCB sentence formation
- VFD PCB presentation skills
- VFD PCB roles & responsibilities of design engineers





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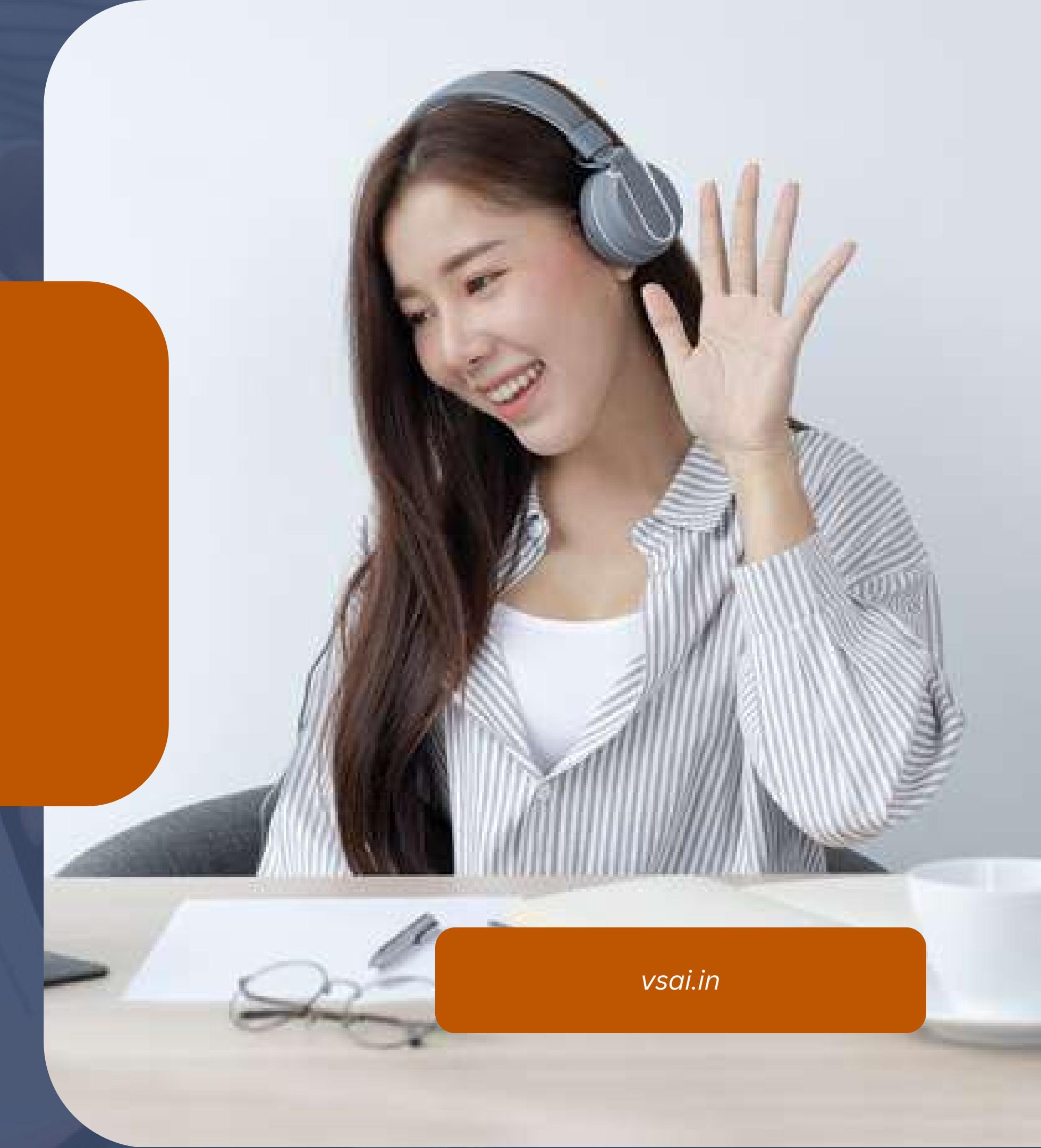
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