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Build Smart with Espressif



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ESP32 IC Design House

- RISC-V
- Wi-Fi
- Bluetooth LE
- Thread
- Zigbee
- AI
- Operating Systems
- Cloud Solutions



Table of Content

01 About Espressif

- Who We Are.....01
- Vision and Mission03
- Core Technologies and Chip Matrix..... 05
- Industry Outlook.....09

02 People at Espressif

- Meet Espressifers.....11
- Culture and Activities.....15

03 Campus Recruitment

- Current Job Openings..... 17

Who We Are

A Global Leader in Semiconductor Innovation

Espressif Systems (SSE: 688018.SH) pioneers full-stack platforms powering the next generation of intelligent, energy-efficient IoT and edge AI devices. Our open-source technologies are transforming industries by enabling scalable, secure, and cost-effective innovation—from consumer products to industrial IoT. The breakthrough integration of compute and connectivity in our SoCs reshaped the IoT landscape, making mass-scale smart devices accessible to all.

As a global semiconductor innovator, we deliver high-performance RISC-V SoCs and comprehensive solutions with integrated AI, in-house operating system, robust security, and seamless cloud integration—shaping the future of smart, connected systems.

Global Presence

- Singapore** Singapore
- China** Shanghai · Suzhou · Wuxi · Hefei · Shenzhen
- Czechia** Brno
- Brazil** Campinas
- India** Pune
- Japan** Tokyo



ESP32
ESP8266

IC Design House

TOP 5

in Global Wi-Fi Market

149.13%

Net Income Attributable
in 2024

1 Billion+

Global IoT SoC Shipments

2 Million+

Active ESP Ecosystem
Developers

“ We empower developers to build competitive, scalable AIoT devices. By engaging with the developer community, we continuously improve our products. Our wide product range, from low-cost devices to complex cloud-integrated solutions, reflects our commitment to simplicity, affordability, and faster time-to-market. Together, we drive innovation and impact in AIoT. ”

Teo Swee Ann Founder & CEO

Master of Engineering, NUS, 2002

RF/Analog Circuit Expert, Senior
Software Engineer

CDE Distinguished Alumni
Award 2022

Fellow of the Singapore Academy
of Engineering



Vision and Mission

Democratizing Technology Access

With our commitment to providing open-source IoT solutions for businesses and developers alike, we continue to diversify opportunities in the tech industry. By offering open-source tools and resources, we empower a diverse community of innovators to address critical societal challenges. Our goal is to foster collaboration and innovation across industries, driving positive change towards a brighter future.



140 K+

ESP32 & ESP8266 project repositories



130 K+

ESP32 subreddit members



200+

ESP related books available in over 10 languages



1.3 M+

Views on the most popular ESP32 video



5.6 M+

Total views of the most popular video on ESP32

27.26 M+

Total views on the most popular shorts on ESP32

Explore Espressif's Journey



Core Technologies

From Core Technologies To Full-Stack Solutions

We are pushing the boundaries in wireless connectivity, multi-protocol integration, and multimedia SoCs. Committed to full-stack development, we build our own wireless IPs, RF components, RISC-V cores, software frameworks, and AI toolchains.

Espressif is also exploring the integration of large language models (LLMs) at the edge—enabling devices to sense, understand, and respond more intelligently.



Cloud Solutions



Private cloud empowers secure, low-code AIoT solutions for customers.



Remote diagnostics to monitor the health of on-site devices.



AIoT SDKs & Solutions



ESP-SR
Voice Recognition



ESP-HMI
Human Machine Interaction



ESP-WHO
Computer Vision



ESP-DL
Deep Learning Engine



Operating Systems



ESP-IDF



Compilers & Tool Chains



Networking Protocols



Chip Design



AI Acceleration Instructions

Connectivity

Wireless Communication

Wi-Fi 7, Wi-Fi 6E, Wi-Fi 6
2.4/5/6 GHz Tri-band
Bluetooth 6
IEEE 802.15.4 (Thread, Zigbee)

High-Speed Data Transmission

2x2 MIMO

Computing

Core

RISC-V Core
64-bit Application Processors
32-bit MCUs

AI

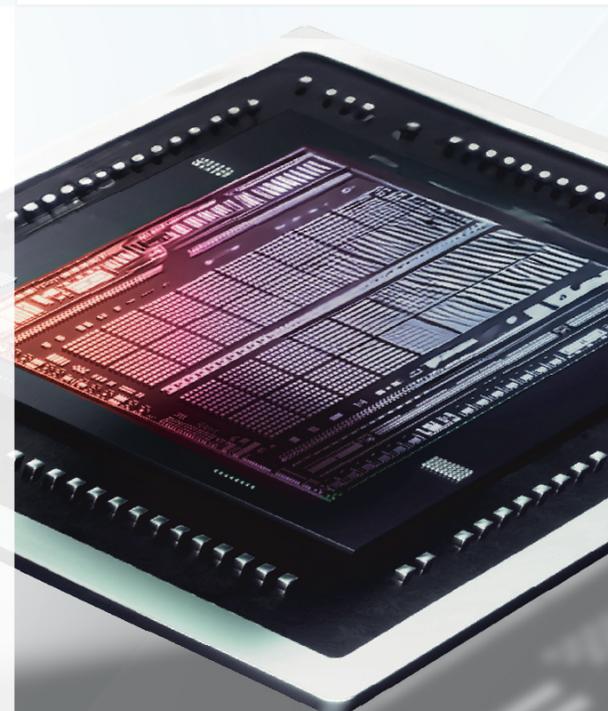
NPU
Machine Vision

Multimedia

H.265 Encoder
ISP DPU

High-Speed Interfaces

PCIe
DDR
USB



Diversified Chip Matrix

Processing & Connectivity

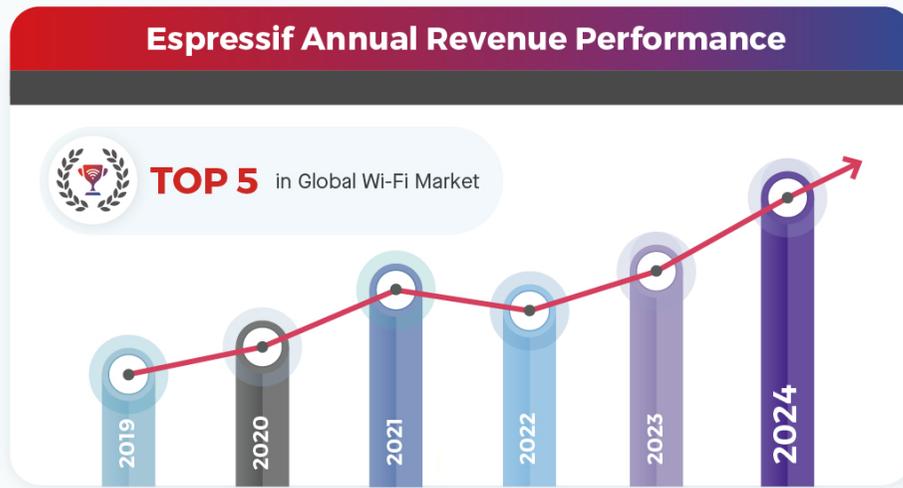
Espressif's diverse SoC portfolio ranges from entry-level controllers to high-performance multicore platforms, featuring high integration and multi-protocol support. Widely used in smart home, wearables, and industrial control, our chips are built on proprietary architectures and fully compatible with Espressif's unified development framework—empowering developers to build scalable, reliable IoT solutions with ease.



High Performance	ESP32 32-bit Xtensa MCU 2 x HP Core @240 MHz 1 x ULP Core @8 MHz 	ESP32-S3 32-bit Xtensa MCU 2 x HP Core @240 MHz 1 x ULP Core @17.5 MHz 	ESP32-E22 2 x Core @500 MHz 	
	ESP32-S2 32-bit Xtensa MCU 1 x Core @240 MHz 	ESP32-S3 32-bit RISC-V MCU 2 x HP Core @400 MHz 1 x LP Core @40 MHz H.264 encoding 	ESP32-P4 32-bit RISC-V MCU 2 x HP Core @400 MHz 1 x LP Core @40 MHz H.264 encoding 	
	ESP32-H4 32-bit Xtensa MCU 1 x Core @240 MHz 	ESP32-H4 32-bit RISC-V MCU 2 x Core @96 MHz 	ESP32-H4 32-bit RISC-V MCU 2 x Core @96 MHz 	
	ESP8266 32-bit Tensilica MCU 1 x Core @160 MHz 	ESP32-C6 32-bit RISC-V MCU 1 x HP Core @160 MHz 1 x LP Core @20 MHz 	ESP32-C5 32-bit RISC-V MCU 1 x HP Core @240 MHz 1 x LP Core @40 MHz 	
Cost Effective	ESP32-C3 32-bit RISC-V MCU 1 x Core @160 MHz 	ESP32-C3 32-bit RISC-V MCU 1 x Core @160 MHz 	ESP32-H2 32-bit RISC-V MCU 1 x Core @96 MHz 	
	ESP32-C2 32-bit RISC-V MCU 1 x Core @120 MHz 	ESP32-C2 32-bit RISC-V MCU 1 x Core @120 MHz 	ESP32-C2 32-bit RISC-V MCU 1 x Core @120 MHz 	
Classic			Recent	New

Industry Outlook

Espressif remains as a global market leader in the field of Wi-Fi MCUs. By constantly diversifying our product portfolio, our chips can be utilized in various segments of the IoT market.



Diverse Applications

- Smart Home
- Consumer Electronics
- Industrial Automation
- Smart Agriculture
- Healthcare
- Energy Management
- Internet of Vehicles
- Education

Edge-Cloud AI

Espressif harnesses full-stack innovation with proven performance and collaborates with a global ecosystem of leading technology partners.

Apple Developer

Apple showcases Embedded Swift on ESP32-C6 to build Matter-Enabled connected devices.

Building a simple HomeKit accessory: LED light

Microsoft

Microsoft DeviceScript supports the ESP32 Series, enabling fast prototyping in TypeScript.

TypScript for IoT

OpenAI

Released Open RealtimeAPI Embedded SDK supported on ESP32-S3.

OpenAI Realtime API Embedded

VolcanoEngine

ByteDance's VolcEngine & Espressif co-develop LLM-powered embedded IoT solutions.

实时对话式 AI 硬件推理教程

Dream · Build · Deliver

Every step is made possible by exceptional talent and teamwork



Shirley

Project Manager Imperial College London

My biggest takeaway from Espressif? Collaboration can truly be rewarding! Espressif's strong culture on innovation fostered an environment where ideas can flow freely and a place where curiosity and candor thrive. By working on new projects, my professional skills and management ability has grown tremendously.



An Ran

Digital IC Engineer Tsinghua University

Espressif is an open and warmhearted tech community. People here are eager to share their experiences, treat every project like a crafted piece of art, and enjoy exploring the frontiers of technology together. Challenging work came early, but I was never alone. My mentor was always by my side, supporting me through trial and error and growing with me along the way.

Jerome

Digital IC Engineer National University of Singapore

At Espressif, I'm free to explore areas I'm passionate about and experiment with new ways to improve our work. The team culture is inclusive — different viewpoints are always welcomed and thoughtfully discussed. Here, it's not just about getting things done, but about working together to make things better.



Ruo

Embedded Software Engineer Stanford University

From a fresh graduate to taking full ownership of projects, I've grown through hands-on experience at Espressif. The team culture is inclusive, code reviews are thoughtful and constructive, and colleagues are both professional and generous in sharing their knowledge. Every day here brings new challenges and meaningful growth.



Radim

Software Engineer Brno University of Technology

Since day one at Espressif, I was trusted with real ownership and given the opportunity to grow alongside top professionals. The culture here encourages individuality, innovation, and lifelong learning. I've grown quickly, not just technically—but as part of a team that shares goals and values.



Learn · Adapt · Grow

Discover Your Best Self at Espressif

Shawn

Analog IC Engineer

Nanyang Technological University



As an analog IC engineer, I focus on designing and optimizing critical circuits. The projects challenged me to perform at my best and truly sharpened my skills. I was fortunate to meet experienced mentors who generously shared their knowledge. They helped me deepen my understanding of the fundamental logic behind analog design. It's a privilege to work in such a professional and supportive team.

Ning Xiang

Digital IC Engineer National University of Singapore



Espressif allows me to explore fields far beyond the breadth and depth I thought possible. The ability and approachability of my colleagues grants me access to support and experience that allows me to learn and become so much more than I was. The rich environment and exciting technology is priceless, and I am immensely glad to have this opportunity.

Manali

Software Cloud Engineer

International Institute of Information Technology - Pune



Joining the ESP RainMaker cloud backend team right after graduation was a great way to dive into new technologies and broaden my understanding early on. A big thanks to my team, who patiently resolved all my doubts, and my manager who fostered an environment where I could fail and learn.

Yan Quan

Embedded Software Engineer

National University of Singapore



Being an avid user of Espressif products for both my academic and personal projects, the opportunity to join has been a dream come true. Espressif's global presence offers the opportunity to work on international projects, allowing me to experience diverse work cultures and expand my expertise on a global scale.

Junius

Software Engineer Nanyang Technological University



Espressif has been the ideal place for me to begin my career! I've been given meaningful, challenging work and the opportunity to collaborate with a welcoming, yet highly skilled team. I'm also proud to contribute to a company that's widely recognized for shaping the IoT space through its market-leading chip designs.

Diversity Respect Collaboration

We bring together talents from diverse cultures, disciplines, and backgrounds to create technologies with global impact



*BUILD SMART
WITH ESPRESSIF*

 **ESPRESSIF**

ESP
Family

SHARE :: CONNECT :: INNOVATE



Analog IC Design Engineer

Job Responsibilities

- Responsible for the design, simulation, and verification of analog circuits
- Perform layout floor plan simulations and ensure optimization
- Collaborate with layout engineers to finalize circuit design work
- Prepare comprehensive design documentation and maintain detailed records throughout project lifecycle
- Coordinate with application, product, and test engineers to ensure successful mass production of the product

Job Requirements

- Bachelor's degree or above in Microelectronics, Electronic Engineering, Communication Engineering, or related fields
- Solid foundational knowledge in analog circuit design principles
- Hands-on experience in designing one or more of the following circuits: LDO, Oscillator, IO, ESD, ADC, DAC, PLL, and filters
- Proficiency in at least one programming language such as Python, Matlab, or C
- Strong problem-solving skills and good communication and learning abilities.
- Passion for analog circuit design, with a strong interest in advancing knowledge and skills in this field

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	

Digital IC Design Engineer

Job Responsibilities

- Micro-architecture & RTL development for AI compute subsystems
- Analyze performance, power, and area (PPA) to deliver high-performance compute within strict cost and energy budgets
- Collaborate with verification teams to execute module-level and system-level validation
- Support driver development, debugging, and technical documentation throughout the project life cycle

Job Requirements

- Bachelor's degree or above in Electrical Engineering, Computer Engineering or related fields
- Strong grasp of digital-circuit fundamentals and a keen eye for performance, power, and area trade-offs
- Solid knowledge of computer architecture, neural-network processing, bus architectures, and memory systems

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates** or **Semester Interns**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	✓

Digital IC Verification Engineer

Job Responsibilities

- Define verification plans and test cases based on chip design specifications, and establish the verification environment
- Collaborate with chip design engineers in identifying and fixing design defects and continuously improve verification coverage
- Participate in gate-level simulation and formal verification
- Optimize tools and the verification environment to enhance verification efficiency

Job Requirements

- Bachelor's degree or above in Electronic Engineering, Computer Engineering, Computer Science, or related fields
- Familiar with Verilog, C, System Verilog, UVM
- Familiar with scripting languages such as Perl, Shell, and or Tcl

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates** or **Semester Interns**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	✓

Embedded Software Engineer

Job Responsibilities

- Design and develop wireless protocol stacks, including Wi-Fi, Bluetooth, Thread (IEEE 802.15.4), and coexistence among them
- Design and implement embedded solutions based on Wi-Fi, Bluetooth, Thread SoCs and SDKs, such as IoT devices and smart hardware
- Analyze, identify, and resolve customer issues to ensure successful product deployment and project delivery

Job Requirements

- Bachelor's degree or above in Computer Science, Electronic Engineering, Communication, Automation, or related fields
- Proficient in C/C++ programming & python
- Familiarity with FreeRTOS or other real-time operating systems
- Knowledge of hardware communication protocols: SPI, UART, I2C, I2S
- Fluency in Chinese (spoken and written) to collaborate with our Shanghai-based team
- Willingness to relocate to Shanghai for at least 1 to 2 years

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	

Computer Vision Algorithm Engineer

Job Responsibilities

- Develop and optimize computer vision and deep learning algorithms, covering areas such as image/video object detection, tracking, semantic instance segmentation, video stabilization, stitching, SLAM, and action recognition
- Drive research in algorithm lightweighting, transfer learning, and other technologies, and apply them in real-world products
- Develop and manage the tools and infrastructure required for research, supporting the efficient implementation and deployment of algorithms
- Optimize and debug algorithms on embedded platforms and real world products to ensure efficient performance and stability

Job Requirements

- Masters degree or above in Computer Science, Computer Engineering, Robotics or related fields
- Proficiency in Python, C++, and CUDA programming
- Expertise in deep learning frameworks such as PyTorch, TensorFlow, and Caffe
- Familiar with open-source libraries such as OpenCV, Eigen, g2o, Ceres and PCL
- Publications in top-tier journals or conferences are preferred; patent application experience is a plus

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	

Python Developer

Job Responsibilities

- Design, develop, and maintain the automation system for our company's various departments using Python programming language
- Collaborate with departments to explore workflow improvement needs and implement automation solutions using cutting-edge technologies, such as GPT models
- Develop and deploy codebase, automated solutions, and data processing workflows using Python and related technologies
- Enhance existing codebase, refactor, debug, and troubleshoot codebase bugs
- Regularly document work to ensure that it is clear, understandable, and informative
- Stay up-to-date with new trends, techniques, and technologies in Python and automation

Job Requirements

- Bachelor's or Master's degree in Computer Science, Computer Engineering, or related fields
- Experience or interest in AI agents and chatbot development is preferred
- Strong experience in Python programming language and related frameworks
- Experience in developing and maintaining complex internal systems
- Knowledge of databases and object-relational mapping (ORM)
- Practical knowledge in GPT models is a plus

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	

Business Management Trainee

Job Responsibilities

Key Account Management

- Deliver timely, high-quality services to international clients while building long-term relationships
- Collaborate with cross-functional teams to understand customers' demand and pursue opportunities for commercial and technical cooperation

Strategic Development

- Lead project team in line with the company's strategic goals
- Monitor current industry trends and participate in the formulation of the company's business strategies

Job Requirements

- Bachelor's degree or above in any discipline with strong interest in customer success and business development
- Fluency in Chinese (spoken and written) to collaborate with our Shanghai-based team
- Willingness to travel overseas when necessary
- Interest in or basic knowledge of the semiconductor industry is a plus

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	

Project Management Trainee

Job Responsibilities

Project Coordinator

- Work closely with the project manager to assist in planning, developing and implementing R&D or customer-related projects
- Closely monitor critical actions and escalate issues proactively to project manager for removal of project barriers
- Maintain documents associated with the scope of new projects, objectives, processes and outcomes

Project Manager

- Lead project execution by planning, tracking tasks, guiding engineers, and ensuring progress.
- Proactively manage risks, run meetings, assign tasks, and coordinate resources to drive project success.

Job Requirements

- Bachelor's degree or above in Electrical Engineering, Computer Science, Computer Engineering or related fields
- Proficiency in one script language at least, C/C++/Python/Matlab, etc
- Fluency in Chinese (spoken and written) to collaborate with our Shanghai-based team

 **Location:**
Singapore or Shanghai

Open for 2026 **Fresh Graduates**

Fresh Graduates		Internship
Singapore	Shanghai	Singapore
✓	✓	