HE ZIHONG

Network Engineer
C/C++ Development

CONTACT

- Guangzhou, Guangdong, China
- +86 189 2876 0047
- hpeikelimuzh@gmail.com
- clannad.top

EDUCATION

Maoming Polytechnic
Artificial Intelligence Application Technology · Full-Time Associate Degree
Sep 2024 – Jun 2027

CERTIFICATIONS

National Computer Rank Examination Level 1
Sep 2022

CCNP Enterprise · Cisco
Jan 2024

Skills 01

Enterprise Networking	VLAN segmentation with trunk links, VTP, STP/RSTP/MSTP loop prevention and EtherChannel (LACP/PAgP); static routing, multi-area OSPF, EIGRP, BGP (EBGP/IBGP and path selection) and Layer-3 switching; HSRP/VRRP/GLBP gateway redundancy, ACL, NAT/PAT, DHCP with DHCP Snooping, Dynamic ARP Inspection, port security and 802.1X; WLAN (WLC/AP, WPA2/WPA3) with QoS marking and queuing; IPv4/IPv6 dual stack and OSPFv3; PPP/CHAP/PAP, GRE tunnels, IPsec and DMVPN; SNMP, Syslog, NetFlow and NTP monitoring; StackWise/VSS stacking; switch and router commissioning plus fault isolation
Languages & Memory	C/C++ syntax and OOP (encapsulation, inheritance, polymorphism, templates); C/C++ dynamic memory management, smart pointers and RAII; STL container usage with container and allocator internals
Data Structures & Algorithms	arrays, linked lists, stacks, queues, heaps, binary trees and hash tables; bubble, insertion, selection, shell, quick, merge and heap sort; AVL trees, red-black trees, B-trees, skip lists, inverted indexes, bitmaps and Bloom filters
Patterns & Databases	singleton, factory, strategy, state, decorator, observer and proxy patterns; MySQL CRUD with indexes and transactions; internals and usage of Redis, Nginx and Flink
OS & Linux Systems	common Linux commands and tools (Vim, GCC, GDB, Git) with Makefile; multithreading and multiprocessing with process synchronization, mutual exclusion and signal handling; inter-process communication via pipes, message queues, semaphores and shared memory
Networks & Sockets	TCP/IP stack with data encapsulation and demultiplexing; TCP, UDP, HTTP and other network protocols; socket programming on Linux; blocking, non-blocking, signal-driven, multiplexed and asynchronous I/O models; select, poll and epoll multiplexing

Experience 02

Guangzhou Tongyuan Computer Co., Ltd. | Feb 2024 – Sep 2024 · Guangzhou

After-Sales Engineer (Internship)

- **On-site commissioning:** deployed VLAN segmentation, Layer-3 routing and security policies at enterprise and campus sites; verified every switch and router, produced port maps and corrected deviations on the spot; re-tested forwarding after cutover through acceptance.
- **Fault isolation:** narrowed link faults layer by layer using packet loss, port negotiation state and routing tables; resolved configuration conflicts and speed/duplex mismatches; re-tested forwarding and packet loss after recovery and turned recurring cases into a fault catalogue.
- **Ticket handling:** took customer tickets by phone and remote desktop, logging assignee, duration and resolution by severity; escalated overdue tickets and followed open ones to closure.
- **Delivery documentation:** archived site configurations, port maps, topology notes and cutover records into a searchable maintenance base and handover checklist, checked item by item at handover.

Projects 03

Xinzhi Zhinan Campus Song-Request WeChat Mini-Program

Taro 4.1 · React 18.3 · TypeScript 5.9

Xinzhi Zhinan campus song-request mini-program: students submit, admins approve and schedule, results push through WeChat subscription messages. Taro + React compiles to the mini-program and H5; a PostgreSQL trigger caps weekly requests per user, song and week, with an advisory lock blocking duplicate submissions. RLS constrains access; an Edge Function limits 30 requests per 60 seconds and issues random passwords. 23 test files / 428 cases pass at 81.22% line coverage; tsc and Biome are clean.

Encrypted for Android Messaging Backend

Java · libsignal · Supabase

Replaced Telegram for Android 11.4.2's messaging backend without touching the UI: a transport-layer interceptor takes over sendRequestInternal and still returns native TLRPC objects, while chats, groups, read receipts and reactions move to Supabase. 94 self-written Java files assemble 11 repository groups per account; libsignal provides X3DH/PQXDH + Double Ratchet, with a separate ciphertext per receiving device and server-side routing by device_id. The interceptor refreshes tokens single-flight on 401; Realtime only wakes the client, while bodies still come over REST.

Personal Blog clannad.top

Next.js 16.3 · Cloudflare Workers · D1

Personal blog clannad.top: one Next.js 16.3 codebase yields static export and OpenNext SSR; mainland document requests are 302-redirected by an edge Worker to EdgeOne, others hit the origin; CSP/HSTS headers are injected and legacy links 308-redirected. The guestbook runs on D1 for messages, comments, reactions and images — images stored as base64, lists return ids only, bodies load lazily — with honeypot, per-IP rate limiting and MIME/size checks. Splitting Velite's 23MB metadata from the build cut the Workers bundle to 5MB gzipped.