

# ZIPING SUN

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**Job intention:** Compiler & Programming Language > System & Backend > Data Analysis > Frontend

## EDUCATION

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**Tsinghua University** *BS in Software Engineering* 2015.9 - 2020.7  
GPA 3.67, rank 20/83

**Tsinghua University** *MSc in Software Engineering in Progress* 2020.9 - 2023.7  
Directed by Min Zhou, engaged in *Static Program Analysis*, especially on Value Flow Graphs

## TECHNIQUES

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<b>Programming Languages</b>	Rust, C/C++, Java, Python, TypeScript, Haskell, Verilog etc.
<b>Machine Learning</b>	NumPy, Pandas, PyTorch; crawling with Scrapy
<b>Web</b>	Vue, React; Koa, Tornado, tokio etc.; SQLs
<b>Team Work</b>	Leading nearly all team projects; good at CI, agile, documentations
<b>Others</b>	Arch Linux user; TUNA member; friendly; perfectionist

## INTERNSHIPS

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**Association for Science and Technology** *Minister of Technique Department* 2016.11 - 2018.1  
Voting system, WeChat danmaku, luck draw system, training other members

**Microsoft STCA** *Code search using deep learning* 2019.7 - 2019.7  
Implementing CODEnn, refactoring data processing

**Others:** **Pony.ai** *Improving tests* **Megvii** *Optimizing tensor operations* **ValiantSec** *Code analysis*

## PROJECTS

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**Machine Learning**  
**THUCourseSpider:** Automatic course crawler; over 95% CAPTCHA recognition accuracy with RNN  
**Others:** Anime avatar generation; MLP with multi-thread and SIMD; transfer learning library

**Web Frontend & Backend**  
**YAWeChatTicket:** Ticket system on WeChat; RBAC; RESTful; PWA; over 10 thousand LOC  
**Others:** WeWall & danmaku; real-time voting system; lite consortium blockchain

**Games**  
**Qt-PlantsVsZombies:** Fake Plants vs Zombies with Qt, available on Bilibili BV1ub4y1v7MF  
**Others:** Motion sensing game; side-scrolling parkour game; online Tic-tac-toe and snake; HTML5 escaping game; mine sweeper cheating

**Algorithms & Low-Level Systems**  
**zhihu-search-engine:** Implementing vector, list, hash map and a fast HTML parser; full-text search  
**ftp-server:** Non-blocking IO based on epoll; user management; bcrypt password encryption; dual stack  
**ray-tracing:** Multi-threading and generic AoSoA SIMD ray tracing; Python FFI  
**SoundMessage/Localization:** OFDM+QPSK sound modulation; locating with FMCW; Android  
**Others:** Implementing RSA; assembly mspaint; lite database; functional interpreter; my static analysis toolkit (WIP)

## PUBLICATIONS

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Cao, Z., **Sun, Z.**, et al. (2018, October) Deep Priority Hashing. In *the 26th ACM MM*

**Sun, Z.**, Zhou, M. (Submitted for publication) Fast and Incremental Algorithm for Dominator Tree