ZIPING SUN

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EDUCATION

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 Value Flow Graphs

TECHNIQUES

Programming Languages	Rust, C/C++, Java, Python, TypeScript, Haskell, Verilog etc.
Machine Learning	NumPy, Pandas, PyTorch; Crawling with Scrapy
Web	Vue, React; Koa, Tornado, tokio etc.; various SQLs and NoSQLs
Team Work	Leading nearly all team projects; Good at CI, Agile, Documentations
Others	ArchLinux, TUNA member, perfectionist; devoted in code analysis

INTERNSHIPS

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

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 `BV1Z7411e7vM`
  Others: Motion sensing game; Side-scrolling parkour game; Online Tic-tac-toe and Snake; HTML5 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 base 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; On Android
  Others: Implementing RSA; Assembly mspaint; Lite database; Functional interpreter; My static analysis toolkit (WIP)

PUBLICATIONS

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