TESLA ICE ZHANG

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🎓 EDUCATION

The Pennsylvania State University (PSU), PA, US   08/18 – Current
Major: Computer Science, Anticipated Graduation: 06/22

👥 WORK EXPERIENCE

Sourcebrella Inc., Shenzhen, China   02/18 – 07/18
Intern   Compiler Front-End, IDE Plugin Development

- Created IntelliJ/CLion/Eclipse plugin of the Pinpoint analyzer, helped to create SonarQube plugin
- Created a multi-threading cross Java/Kotlin source code indexer, index Hadoop takes 4 minutes
- Learned a lot about Linux programming and clang/llvm

PingCAP, Remote   08/18 – Current
Intern   TiKV Team

- Improved many libraries used by TiKV, like optimized the memory performance of grpcio, added new features to procinfo

🐙 PERSONAL PROJECTS

DevKt   https://github.com/ice1000/dev-kt
Cross-platform lightweight code editor / Kotlin IDE.

- Built-in Java/Kotlin highlights and completion, other languages can be supported via plugins (transplantable from JetBrains IDE's). Has extra build & run support for Kotlin.
- Flexible architecture, decoupled high-level logic with UI, migration to other UI frameworks is easy.
- Provides fine-grained highlight color and keymap settings, support hot reload.

Lice language   https://github.com/lice-lang/lice
Scalable programming language running on JVM.

- Supports lambda with and lazy (call by need)/macro (call by name)/strict (call by value).
- About 1/20 of Java's (Hotspot 8u151) performance, provides Java interaction and script engine support.
- Provides CLI REPL with GHCi-style code completion/colored output and JetBrains IDE plugin supporting semantic-based highlights, completion, go-to-definition, rename, eval-and-replace, quick fixes, etc.

Julia-IntelliJ   https://github.com/ice1000/julia-intellij
Julia plugin for JetBrains IDEs, compatible with all JetBrains Products.

- Semantic-based highlights, quick fixes, completion, parameter hint, special input mode for Unicode characters.
- Use Markdown plugin to highlight doc strings, provides REPL and SciView (showing the output of Plot libraries).

⚙ SKILLS

- **Programming Languages**: **multilingual developer** (not limited to any specific language), and especially experienced in Java/Kotlin/Rust/C#/Agda/Haskell, comfortable with Dart/C++/F#/F⋆ (not listed in order)
- **Compilers**: familiar with various Parser Generators/Combinators, understand CPS and ANF, studied some theories about dependent types (like Luo's UTT, Martin-Löf Type Theory) and their implementations in programming languages
- **Kotlin/Java**: **2 years** of experience, **4** projects collected in Awesome Kotlin, familiar with JNI programming, the Gradle build tool, have experience in using the Kotlin compiler to analyze Java code
- **Formal Verification**: understand dependent types / dependent (co)pattern matching / higher inductive types, currently studying Homotopy Type Theory, familiar with Idris, Agda (**1 years** of experience, developer team member) and F⋆
      Source code studied: Agda, Idris, miniagda
- **JetBrains MPS**: **1 years** of experience, understand concepts and usages of **Language-Oriented Programming**
- **IDE Toolings**: **2 years** of experience, familiar with the IntelliJ Platform infrastructure and overall architecture (created the Julia plugin and many others), also have experience with Eclipse/SonarQube
- **Mobile Development**: **2 years** of experience, Android (Java, Kotlin (Anko)), Fuchsia (Flutter)

- **Developing Tools**: can adapt to any editors/OSs, usually use JetBrains IDEs and Emacs under Ubuntu, have experience with team tools like YouTrack, Jira, GitHub, BitBucket, Coding.net, Tower

ⓘ Miscellaneous

- Blog: https://ice1000.org/ partially translated into English
- Literate Agda Blog: https://ice1000.org/lagda/ used Literate mode of Agda improved by me
- Bintray: https://bintray.com/ice1000 published some useful JVM libraries
- IntelliJ Plugin developer: https://plugins.jetbrains.com/author/10a216dd-c558-4aaf-aa8a-723f431452fb
- Books about formal verification I've written: https://github.com/ice1000/Books
- Languages: English - fluent (TOEFL 100), Chinese - native speaker
- Opensource contributions: https://ice1000.org/opensource-contributions/
  pull-requested (functional improvements) to organizations like *Microsoft, JetBrains, Ruby, Dropbox, PingCAP, TiKV*, projects like *agda, imgui, shields.io, intellij-solidity, IntelliJ-EmmyLua, intellij-haskell*
- StackOverflow: https://stackoverflow.com/users/7083401/ 3000+ reputations, also active on other StackExchange sites
- Get the newest version of this resume: https://tinyurl.com/y8xdlfug
- **1 kyu** on CodeWars, ranked #37 on the whole site, primarily in Haskell
- Love making friends