

Background:

IBM:

I am currently working on the Java compiler for Eclipse tool chain. I have been working on the front and middle end of the compiler which includes intermediate code generation, flow analysis, type inference, disassembler and code parser. I had made significant contributions for Java 8 (latest version of Java) for our compiler release. My work has been recognized by the Java community in Java Language Specification:

<https://docs.oracle.com/javase/specs/jls/se8/jls8.pdf> : Preface Section.

Qualcomm:

In my previous role I was part of the OpenCL (Graphics Processing) team in Qualcomm. My role involved working on a new OpenCL LLVM compiler front end. I was also involved in analyzing the code generated by the compiler and suggest improvements to the team. I wrote a tool which analyzed the size of the compiler on disk. Debugging hangs, crashes and performance issues on new hardware was also part of my job role.

Academics:

I did my masters from Virginia Tech, USA under Dr. Srinidhi Vardarajan. I had worked on two projects as part of my thesis. The first project Weaves involved working on runtime and intermediate code generation by LLVM compiler. The project required understanding of LLVM IR format and how the LLVM IR APIs worked.

My second project MPIOR required me to work with file systems on a 300 node super computer. The project dealt with predicting file system performance on the cluster of an I/O intensive application. I worked with MPI (Message Passing interface) for this project.

I have provided a document (ProjectDescription.pdf) where I have explained both the projects in detail.

IBM:

After my under graduate degree I was working on a runtime analysis product: PurifyPlus. This involved analyzing assembly code and inserting hooks in the object code to point out illegal memory accesses at run time. The project involved having a good understanding of the code generated by the compiler. I was in charge of the development on AIX (UNIX) platform.

I understand I have a mixed profile of working on Java for the past two years and before that working on C, C++ and assembly. I have worked on multi-threading and large scale distributed system which the role demands. I think my experiences with different languages and systems would be an asset and help me write code for optimum performance.

Thanks,
Shankha Banerjee