

# Computer Science and Engineering Services

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## 1 Purpose of this document

The main purpose of this document is to describe my expertise in various fields in computer science and computer engineering. The content is intended for potential clients to evaluate whether I am a potential candidate for contract work.

## 2 Expertise

### 2.1 General C/C++ Programming

Dr. Tak has programmed in C and C++ since 1986 and 1993, respectively. His experiences include Windows application programming, Linux kernel code modification, Squid (the caching proxy program) modification and many other “general” programming projects.

### 2.2 Embedded System Software

Dr. Tak worked at Z-World, Inc. from 1990 to 1998, and resigned when he was “director of software engineering”. He has expertise in smaller and mostly monolithic embedded systems, from assembly language monitor code to full embedded application code. Dr. Tak also has exposure to using Linux as an embedded operating system.

Dr. Tak developed DTRTK as a small footprint real-time kernel for the AVR family processors.

### 2.3 Printed Circuit Board Design

Dr. Tak has PCB design experience, although that is somewhat limited. He can design relatively simple digital circuits as well as lower-end analog circuits (in which speed and noise are not important factors). He can design the PCB for many applications that can directly utilize microcontroller units with few external components.