

# Patrick M. Mills

---

(571) 338-4657 • pmills@ieee.org • linkedin.com/in/patrickmills • patmills.org

## Capabilities Statement

**Programming** – over 20 languages known; I select a language based on the problem to be solved and project specifications, but the following are some I tend to use most often: JavaScript, C, C++, C#, Objective C, Perl, Python, PHP, Java, 6811 Assembly, SQL, and CSS. I have used these to create many commercial applications, games, mobile apps, websites, website backends, plugins, and E-Commerce databases.

### Multimedia

Graphics – Photoshop, Illustrator, Paint Shop Pro, GIMP and Fireworks to create print and web graphics.

Audio – Adobe Audition and Cakewalk to generate AAC, MPEG, Wave, Real Audio, Windows Media and AIFF.

Video – Premiere, Flash, FFmpeg, TStools, viewTS, TSDuck, Windows Media Encoder, Ultra Converter, TMPGEnc, GSpot, RealProducer and AviSynth to generate MPEG 2 DVD, MPEG 4, AVI, Real Media, QuickTime, and DivX.

### Systems Administration

Administration – Manage and administer heterogeneous computer networks.

Networking – Plan, install, and test physical computer network cabling.

### Computer Aided Design

Modeling – Ansys, Inventor, SolidWorks, COSMOS, Mathematica, FEMLab and MATLAB.

Design – PCB design and layout using Cadence OrCAD/Allegro, Eagle and KiCad.

MEMS – device design using MEMS Cap, Tanner, IntelliSuite and Synopsis.

### Platforms

Wireless – WiFi, RFID, Embedded

Cloud – AWS, Azure, GCP, Rackspace, Salesforce

Embedded – Intel 80x86, AMD, Motorola 680x0, Silicon Labs, Freescale, Renesas, Amtel, Zilog, Marvell  
Ethernet, USB, Sensor Networks

Prototyping – Xilinx FPGA, Cadence, 3D printing, mold design

Security / Encryption – TLS, SSH, OpenSSL, SMIME, PKCS, KEX/Cipher/MAC algorithms: DH, Elliptic, Edwards

Multi-Threading – CUDA, ConCRT, Windows Threads, MMX/SSE, pThreads, MPI

Intelligent Systems – Fuzzy Logic, Neural Networks, Genetic Algorithms

Graphics – DirectX / Direct3D, Shaders (pixel, vertex and geometry), OpenGL, custom 2D / 3D

### Architectures

Mobile – Android, iOS

Windows – 7, 10, 11, Server: 2012 R2 – 2022

Node.js

Unix – Linux (Ubuntu, RHEL, CentOS, Fedora, Arch, custom), BSD, Solaris, HP/UX

Macintosh – macOS

### Management

Manage teams of programmers, developers and artists; manage clients' expectations and budgets. Balance time, cost, functionality, and reliability.