

Dev Kumar

studiokumar@gmail.com

Professional Experience

studiokumar.com

Principal

- Independent technical consultation including Program Management, System Integration, Electronics Engineering, and Mechanical Design

Burbank, California

Summer 2014 – Present

WET Design

Sun Valley, California

Chief Engineer

Winter 2014 – Summer 2014

- WET is the preeminent design and manufacturing company for high-tech entertainment through water features
- Technical leader of the engineering team – developed rapid solutions in diverse areas of engineering: hydraulics, pneumatics, acoustics, electronics, lighting, manufacturing, test, and in-field improvisation

Applied Minds

Glendale, California

Project Manager

Summer 2008 – Winter 2014

- Applied Minds is a small company that invents, designs, and prototypes breakthrough products and services for both industry and government
- Proven success as technical, personnel, and budget director of ambitious multimillion dollar projects in robotics, space systems, product design, energy, agriculture, and applied research

Intel Asia-Pacific Research & Development Ltd.

Shanghai, China

Development Manager

Winter 2006 – Summer 2008

- Developed notebook computer reference designs for Intel platforms: Managed all functional engineering teams including Electrical, Mechanical, Thermal, Software, and Industrial Design
- Chief architect for the world's first notebook computer motherboard standard: adoption of this standard will help make notebook components as interchangeable as desktop computer components
- Ensured projects were on-time and under budget for a multicultural, multidisciplinary team on three continents

Tropos Networks, Inc.

Sunnyvale, California

Principal Baseband Engineer

Fall 2005 – Winter 2006

- Managed technical development and project planning for a mobile Wi-Fi product critical to securing a \$4M public safety contract with Oklahoma City and equipping every municipal fire truck and police car with network access
- Designed and built the world's first automotive Wi-Fi mesh router – responsible for every system in the product
- Managed a team of internal design and test engineers as well as external design contractors

Senior Engineer

Winter 2003 – Fall 2005

- Designed and built the digital systems of a product that allows all residents of Chaska, Minnesota to get T1-quality ISP service for \$16 a month, while offering the lowest installation cost of any network technology
- Integrated the baseband, power, and mechanical systems of the world's highest performance outdoor Wi-Fi product
- Designed and built a battery backup system for an outdoor Wi-Fi product that allows networks to function without interruption even if major infrastructure is destroyed

Finisar Corporation

Sunnyvale, California

Transceiver Design Engineer

Fall 2001 – Winter 2003

- Team leader, chief architect, and system integrator for a 10Gb/s DWDM optical transceiver: the smallest, lowest power, and lowest cost way to get 10Gb/s Ethernet across metro-scale links
- Led development of the world's first 10Gb/s 40km and 80km DWDM XFP transceivers: managed a team of engineers to integrate the electrical, optical, thermal, and software design of the product
- Designed and built the world's smallest and lowest power 10Gb/s cooled EML transmitter subassembly

California Institute of Technology

Pasadena, California

Mechanical Engineering and Astronomy Departments

Summer 1999 – Spring 2001

- Designed and built digital and analog electronics for robotic control and theatrical display
- Led seminars and design reviews for students in an advanced mechanical engineering design contest
- Designed and built components of a novel instrument to measure the polarization of the cosmic microwave background radiation
- Retrofitted equipment into existing infrastructure and sourced off-the-shelf parts to keep project on-time and under budget

Education

California Institute of Technology

Bachelor of Science with Honors: Engineering and Applied Science

Pasadena, California

Fall 1997 – Spring 2001

- Completed coursework in Electrical Engineering, Mechanical Engineering, Physics, Applied Physics, and Optics
- Foreman for Dabney House party construction and special effects, 1999 – 2001

Skills

Management

- Technical leadership; Budget control; Personnel management; Scheduling; Talent acquisition; Investment, Business development, and Sales presentations

Production

- Familiar with most production processes for electronics and mechanics; Design for manufacturing; Design for test; Low-cost high-volume product design

Electronic Engineering

- Design and debugging of complex mixed-signal circuits; Multilayer PCB layout and fabrication; EMC design and testing; ESD-safe SMT soldering including fine-pitch parts; Analysis with modern test equipment e.g. oscilloscopes, spectrum analyzers, waveform generators, and network analyzers

Computer Aided Design

- Altium, OrCAD, Allegro, PowerLogic/PowerPCB, Ansoft HFSS, Solidworks, Inventor, Pro/Engineer, AutoCAD, Mathematica, Matlab, MathCAD

Mechanical Construction

- Drills, Lathes, Mills, Grinders, Welders, Sheet Metal; CNC machine setup and programming; Rapid prototyping including waterjet cutting, laser cutting, and 3-D printing

Graphic Arts

- Photography, Videography, Video production, Illustrator, Photoshop, Final Cut, Premiere

Information Technology

- Windows, Mac, and Linux/UNIX productivity software and system setup; Hardware assembly and debugging down to SMT level; Network setup, maintenance, and administration including wireless, backups, and RAID

Programming

- C, Python, Arduino, PIC Assembly, 80x86 Assembly, 68HC11 Assembly, BASIC

Honors

Intel Division Recognition Award

Fall 2006

- Awarded for outstanding contributions to mobile computer standards

Patents

Fall 2003 – Present

- Awarded 14 US Patents and 17 published patent applications for inventions I authored and co-authored

Lightwave OFC Attendees' Choice Award

Summer 2003

- My 10Gb/s transceiver was distinguished as the "Best Subsystem" at the Optical Fiber Communication trade show

15th Annual Caltech Engineering Design Contest

Fall 1999

- Champion, Caltech ME72 Engineering Design Contest

- Designed and built a machine that was undefeated in 7 rounds of a gladiator-style robotics tournament

56th Annual Westinghouse (Intel) Science Talent Search

Spring 1997

- Won 6th place out of over 3,000 projects for an RF power-efficiency meter I developed for Texas Instruments

Interests

- Photography, Creating Things, Adventure
- more at studiokumar.com