ANKUR SHAH
TENTMAKER SYSTEMS CONSULTING GROUP
consulting@tentmakersystems.com

SUMMARY OF QUALIFICATIONS:

- Technology leader with 18 years of wide ranging **Architecture, Engineering and Management** experience in technologies ranging from High-Dynamic Range (HDR) Imaging (Dolby Vision), Professional Grade Quantum Dots and LED-LCD Display systems, Audio-Video Content Creation and Content Delivery, Multimedia SOCs, Video Encode-Decode (HEVC, H.264, MPEG-2/4), Video processing, High performance CPU-GPU processing, High speed connectivity, Blockchain and In-Car Entertainment in Autonomous cars.

- Valuable experience in creating, nurturing and leading large (25+) local and **global cross-functional** and cross-organizational Engineering teams. Worked from Individual contributor level to Executive Management level at VC Funded startups (2 successful acquisitions) and Fortune 500 companies. Managed $20M+ annual budget

- Video, Imaging and High Performance Computing System Architect. Received multiple recognitions in resolving complicated system level issues involving Software, ASIC/FPGA, Board, Mechanical, Power and specification error both internally and at customer site.

- Successfully taped-out 12 multi-million gate ASICs from 90nm to 28nm technologies**.** Designed 10+ technically complex hardware solutions with High Density and high speed Altera or Xilinx FPGA.

- Hands-on experience with full chip Architecture, Micro-Architecture, Design (Verilog), Simulation, Verification (System-Verilog UVM), Synthesis, Timing analysis and closure, FPGA Implementation flow, pre-Si and post-Si system debug and supporting backend design.

- Implemented software solutions for complex video algorithms, high end image processing, real-time video and network processing, UI/UX, web platform and Firmware.

- Hands-on experience with defining Software architecture, software implementation in C/C++, CUDA, MATLAB, Linux, Multi-threaded programming and performing comprehensive Testing/QA.

- Strong Project Management, interpersonal and communication skills that enables me to work well with different team/organization structures and different project dynamics including high pressure situations.

PROFESSIONAL EXPERIENCE:

Director, Imaging and Video Products, Advanced Technology Group, Dolby Labs   *Jun'13 – Mar'18*
Hands-On Management position with responsibilities spanning across multiple disciplines. Managed full product life cycle of the most advanced High Dynamic Range (HDR) Display from concept to production.
Product Description:
- The highest performing 55" UHD/4K Professional Reference Display (Monitor) with 4K nit's luminance and max-REC2020 color gamut coverage. Locally dimmed (10240 unique controllable zones) LED-LCD and Quantum Dots based display.
- This display is used for Color Grading, Editing, Visual Effects and Quality Control of Episodic, Movies, Games or Live HDR (Dolby Vision) content.
Engineering:
- **Software:**
    - Implementation of proprietary dual modulation algorithm, 1D-LUT, 3D-LUT, Video processing on high end custom built Linux PC with 8 dual core Intel i7 CPU and Nvidia Quadro P6K graphics card.

- Cypress PSOC micro-code development to control 10240 LEDs individually.
- iOS Remote Control App and web UI based User Interface.
- Research on applying Machine Learning techniques for object recognition in video stream to increase video encoding efficiency.
- Software Language/Tools: Ubuntu Linux, C/C++, CUDA, MATLAB, Apple IDE.
- **FPGA/Hardware:**
  - Architecture and Schematic Review of a Complex Board design with Altera/Intel Arria 10 1152-pin FPGA, 1.2GHz DDR4 memory, DisplayPort1.3 RX/TX, multi-lane LVDS, specialized clocking and USB3.0.
  - Verilog Implementation and System-Verilog based test infrastructure for DisplayPort Rx, Video processing, DDR4 memory controller and LCD TCON Interface on in-house developed Controller board.
  - FPGA based Dev Board to enable partners to implement dual-modulation algorithm in LED-LCD display.
- **System (Mechanical, Optical, Power):**
  - Comprehensive in-house simulation and design of Thermal (convection and forced air cooling) and Optical (Quantum Dots, BEF/DBEF, Thin Bulk, Diffuser, LCD) sub-system.
  - Complete mechanical design of the Display using Aluminum, Copper, Metal and Plastic parts.
  - Development of Unit Build, automated display calibration and Optical measurement process.
  - Passed all UL/FCC/CE Safety and Emissions, RoHS compliance. Passed HALT and DUST stress test.
- **Testing/QA**
  - Developed and executed comprehensive test plan and procedures for Software/FPGA Feature validation and full system QA with objective and subjective display measurements: Luminance, Color Gamut, 25-point Uniformity, EOTF tracking, 10b LCD color tracking, system power efficiency and more.
  - Implemented an automated small volume Manufacturing Test procedure at individual component, sub-system and system level.

Business/Product Management:
- Developed a business plan for in-house development of the Professional Reference Display that enables key value proposition for Dolby Vision – a High Dynamic Range Video technology. Convinced internal executive stakeholders on a multi-year multi-million dollar milestone based funding.
- Lead Early stage technology incubation by analyzing different display technologies and developing prototypes. Developed a proposal to use Quantum Dots technology to achieve luminance, color gamut and contrast performance that is superlative than any display currently in the market.
- Developed a Product Requirements Document (PRD) for a monopolistic HDR Professional Reference Display Reference to be used for Dolby Vision Content Creation in Cinema Post Production, Animation, Gaming and Streaming market segments.

Project and Process Management:
- Worked with multiple stakeholders and developed a comprehensive Engineering, Operations and Manufacturing schedule for the project. Continuous communication with stakeholders on program risks and schedule changes. Successfully implemented combination of Agile-Scrum and Waterfall process. Established an efficient Customer Issue/Bug management process using Salesforce integrated with JIRA bug tracking tool.

Managing Partnerships and Operations:
- Product has more than 1000 BOM items. Managed partnerships with 18 suppliers/companies/vendors for parts procurement, consulting services, small volume Manufacturing build and assembly, Board Fabrication and Assembly, supply chain for key components like GPU, FPGA, Quantum Dots, LCD and others.

Mentorship
- Coached, mentored and trained most members of the team. Developed individual Growth and Skills Enhancement plans. Interviewed and hired 11 engineers at different levels of experience.

IdeaQuest-2016 Winner: InCarNation
- Won a highly coveted Business Plan competition (310 total entries) for the idea of creating immersive and spectacular Entertainment and Productivity experience inside a Level 4 Autonomous Car powered by Dolby Technology – Sound (Dolby Atmos), Video/Display (Dolby Vision), Conferencing (Dolby Voice).

- Conceptualized and created a demo of a differentiated immersive experience showcasing 20 different activities in an Autonomous car powered by Dolby technology. (https://goo.gl/photos/q8iN8qT8fG3aNQD57)

Senior Manager, Imaging and Video Products   ***Dolby Labs***   ***May'11 – May'13***
- Developed Hardware IP for Dolby proprietary Histogram-Adjusted-Multiscale Tone Mapper and JPEG-HDR processing. Worked with two customers in integrating this IP into Camera SOC ASIC. This JPEG-HDR IP is currently supported by most DSLR cameras.

Crypto-Currency (Blockchain) Mining Consortium   ***Aug'13 – Dec'15***
- Enthusiast and early adopter of Block Chain technology and crypto currency. Developed FPGA IP for SHA256D core and mined Bitcoins till mining operation was profitable. Developed a low power high performing Bitcoin Mining (SHA256D) ASIC solution for TSMC 28nm LP technology and sold the IP to one of the now largest Bitcoin Mining company based in China.
- Consultant/Advisor on different applications of Blockchain technology and Ethereum smart contracts with focus on Payments, ICOs and International services.

Manager, Connectivity Solutions   ***Broadcom***   ***Oct'10 – May'11***
- Managed Product Definition and Architecture of next generation 802.11ad (60GHz) Wi-Fi solution and integrating this into existing (Wi-Fi, BLE, Audio) Combo Chip architecture.

Engineering Manager   ***Zenverge (acquired by Freescale)***   ***Feb'08 – Oct'10***
- Micro-Architect and Engineering Manager responsible for executing HW & SW engineering tasks and delivering first of a kind highest performing 4xHD Video Transcoder (Decode-Encode) chip (ASIC) and system solution.

Principal Engineer   ***Micronas USA (formerly WIS Technologies)***   ***Apr'03 – Feb'08***
- Micronas acquired WIS Technologies, a VC funded startup in Dec'05. I was one of the key members involved in Technical Due-Diligence process of this M&A transaction.
- Led a team of engineers for implementation of multi format (H264, VC1, MPEG2/4) multi stream HD Video Decoder and Video Processing and Display/Graphics hardware that generated over $100M in revenue.

Senior Engineer, Enterprise Chipset Division, Intel Corporation   ***Jan'99 - Apr'03***
- Worked as a Senior Design Engineer on Intel 82870/82880 Server Chipset I/O Component Hub (SIOH) for 64-bit multi-processor system. Designed a Read Cache unit and verified MESI caching protocol.

NON-PROFIT WORK:

Founder & Trustee, ShubhAnk Education Trust   ***Jan'08 – current***
- Growing up in a family of Educators, I was blessed to receive good education that truly changed my life. I believe gift of Education is one of the most effective life changing tool for a person in need. True to this philosophy, I and 3 other educators from my family started an initiative focused on funding primary education (Grade 1-8) needs of underprivileged children in India. Today, we support children from 7 different cities and have funded primary education of 122 children till date and growing.

EDUCATION:

Coursera Certification	Machine Learning, Andrew Ng	Completing Apr'18
Agile-Scrum Certified		
Stanford University, Palo Alto, CA.	Non-Degree Student	Computer Engineering
UC Berkeley Haas School of Business	MBA, Entrepreneurship and Marketing	Graduated 2012
The University of Toledo, Toledo, Ohio.	M. S. E. E (VLSI)	Graduated 1998
M.S.University of Baroda, Baroda, India.	B. S. E. E (Electronics)	Graduated 1997