ROB JONES

CONTACT

24/10 Breese Street, Brunswick
Victoria, 3056, Australia

Phone	**+61 457 596429**
Email	**rob@robjones.org**
Web	**impermanent.io**
Github	**RobDeBagel**
LinkedIn	**robdebagel**

Experienced Electronics/Software Engineer. Embedded Software/Hardware Prototyping and Development following Systems Integration and Professional Support.

My professional interests are Production/Broadcast/Streaming Media, Geospatial Technology, and optimisation for Mobile, Low Power Electronics.

I enjoy the process of addressing the technical and strategic aspects of engineering challenges with well considered solutions. I perform best in small, purposeful research and development driven organisations with a collaborative ethos.

EXPERIENCE

PROTOTYPING ENGINEER
Telstra CTO&I
09/14 - Present : Melbourne, AU

- **UAV (Drone) Program Engineering**
  Technical program directed at securing Telstra's involvement in standardising monitoring of unmanned aircraft and associated airspace. Design/Development on several Proof-Of-Concept (PoC) projects aimed at demonstrating safe remote operation and management of aerial vehicles using Telstra's mobile network.
  - Multi-aircraft aerial survey tasking using ArduPilot/NVidia TX2 + ROS + PostGIS
  - Multispectral image orthomosaicing, compression and LTE backhaul. Developed 'fly away' hardware and software package using low cost 5-band camera and R-Pi.
  - Prototype unmanned traffic management platform using simulated drones and realtime ADS-B air traffic data.
  - Integrated low-cost Software Defined Radio hardware for reducing aircraft payload weight

- **Prototype xDSL/LTE Home Automation Gateways/Routers**
  Augmentation of OpenWRT and vendor proprietary stacks • Broadcom MIPS/ARM Linux Integration • Broadcom SoC hardware acceleration • WWAN kernel driver integration • Jenkins CI/CD • Gateway Hardware OEM liaison

- **Blockchain Technology Evaluations**
  Evaluation of several blockchain technologies • PoC for automative/insurance: CanBus/OBD logging, Cat M1 LTE backhaul, lodgment on blockchain-backed ledger • Proof-Of-Concept integration into Telstra's Home Gateway products.

SENIOR ENGINEER
Dolby Australia
09/10 - 08/14 : Sydney, AU

Integration of Dolby's audio processing algorithms/codecs into mobile phones/tablets and 3rd party applications in the Mobile Audio Team

- **iOS/Android Operating System Integration & Support**
  Android/iOS/WinCE/Symbian OS and application-level integration of DSP & Codec libraries • ARM GCC/RVDS Compatibility and Porting • OEM/ODM Tier 3 remote and on-site support • OpenMax, OpenSL-ES, Core Audio library wrappers

- **Devops/CI for Android OS**
  Designed and built git/gerrit/Jenkins CI environment for Android • P4 to git transition management • Qualcomm Soc Platform Integration • Open Source Release Policy/Process

- **Amazon Kindle Fire HD**
  OpenMax DD+ Audio Codec Integration & Test • 1 month on-site integration support in California

BROADCAST ENGINEER
TCN9
05/10-09/10 : Sydney, AU

- **TV Sports Data Manipulation/Ingest Tool Development**
  Python tool to automate ingest of error-prone, manually created cue-sheet metadata from archive rugby/cricket games into an EVS video server, providing instant access to relevant archive material during live broadcasts

APPLICATIONS ENGINEER
Amino Communications
2007-2010 : UK/USA

Customer Integration, Custom Development and Tier 3 Support

- **Applications Engineering**
  IPTV systems engineering, pre/post sales support, customer training and internal infrastructure projects • One year spent on secondment to the Atlanta, GA office

- **Remote Customer Test/Validation**
  SNMP/Zabbix Agent-based monitoring of ~100 Amino set-top-boxes using an L2 tunnel to a customer's production IPTV network for test and validation of software releases

- **Automated Content Conformance Checking**
  Developed an MPEG-TS analysis & analytics application that allowed support to upload content for automated compliance checking, archival and metadata analysis

BROADCAST INTEGRATION ENGINEER
MHz/Tandberg TV (Ericsson)
2005-2007 : Cambridge, UK

Broadcast systems design, build and test, with a focus on digital production and broadcast equipment installation and configuration

- **Project Highlights**
  - **Intelsat (USA, Maryland) 150 Channel DVB/IPTV Headend**
    - System physical build supervision, configuration, test and commissioning
    - System Configuration: Encoders, Multiplexing, Monitoring, Automation
    - SNMP Monitoring
  - **US Embassy London broadcast suite refurbishment**
  - **BBC Outside Broadcast HD Retrofit**

APPLICATIONS ENGINEER
ARM
2005 : Cambridge, UK

- **Validation of AMBA/AHB SoC Bus Protocol Implementations**
  Ran gate-level simulations of ARM processors (ModelSim), and validation of customer designs against bus specifications • High degree of accuracy required to avoid protocol violations in fabricated chips

MEng PLACEMENT
QinetiQ
2005 : Malvern, UK

- **Automated Configuration of High-Speed, Network-Attached FPGAs**
  Developed a Java tool to generate skeleton VHDL code for distributed clusters of FPGA-based processing nodes, primarily for radar/signal processing applications

MEng YEAR-IN-INDUSTRY
Dolby Laboratories
2002-3 : Wootton Bassett, UK

- **Digital subtitling system for cinema 35mm film presentation**
  Product development and field trials of an audio timecode synchronised video overlay subtitling/audio description (AD) system for 35mm cinema projection systems

EDUCATION

University of York
2000-5 : York, UK

- **Electronic Engineering (MEng) - 2:1**

SKILLS & KNOWLEDGE

Software Development

Languages | **C, C++, Python, Java, Javascript, Perl**

Toolchains/Build Systems | **GNU Toolchains, GCC/LLVM/CLANG, ARM RVDS, ANT, MAVEN, CMAKE**

Platforms | **Linux (x86, ARM, MIPS), OSX, Arduino (AVR), STM32, Android(ARM/x86)**
Technologies | **Containers (Docker), Virtualisation, CI/CD (Jenkins, Bamboo),**

Mobile

Android | **NDK, SDK, AOSP (Stagefright/AudioFlinger development), GeoLocation**

iOS | **Core Audio, AV Foundation**
Technolologies | **Bluetooth LE/Classic, UMTS/LTE**

DevOps/Sysadmin

Tools | **Git, Gerrit, Jenkins, P4, Bamboo, Openstack, AWS, Azure**
Platforms | **Ubuntu/Debian Linux, OSX, Windows**
Networking | **Typical tech e.g. TCP/UDP/IPv4/6, DNS, Routing, Reading IETF RFCs**
Data | **MySQL, PosgreSQL/PostGIS**

Broadcast/Media

IPTV/Streamign | **Multicast, RTP/RTMP, WebRTC, HLS, MPEG-DASH**

Broadcast | **DVB • Terestrial/Satellite/Microwave Comms • Audio/Video Compression • MPEG/ISO/EBU Standards**

Hardware

Electronics | **Simple PCB Layout/Production, Soldering/SMT working, build/test/debug of analogue/digital electronics**
Light Fabrication/Machining | **Metal, wood, plastic, composites, CAD/CAM, CNC control, 3D printing**
Systems Integration | **Data/Power Cabling**

GeoSpatial

ESRI ArcGIS, QGIS, GDAL/OGR, GNSS Systems • Tiling • Vector Tiling • Raster/Vector data capture/wrangling/processing • Map Production

OTHER

Voluntary Activities
Victoria Bush Search & Rescue : Active member
Occasional Open Source Contributions

Personal Interests
Cave Surveying/GIS, Canyoning, Climbing & Bushwalking
Immersive Lighting/Computing in Visual Arts

References
Available on request