Prajna Kandarpa

I'm well-versed in software development, web development, audio visual media development and am in the process of honing my machine learning based data analysis skills. I also have more than a passing interest in the fields of social sciences and psychology. I'd like to work in a position where I would be able to utilize these skills while being able to learn new ones in any domain.

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Work experience

Jul '15 - Dec '15 —— Web Application Developer
Acerta Analytics, Waterloo, ON

Develop and maintain our web application, create responsive data visualizations for the web. Investigate and develop techniques to sample huge time series datasets for data visualization. Redesigned and implemented the web application for our main product using Bootstrap and AngularJS. Check us out at Acerta.ca

Mar '15 - Jun '15 —— Full Stack Engineer
Ubiq, Inc., Kitchener, ON

Developed a low latency desktop streaming module for enterprise meeting rooms in C and integrated it into our OS X application. Implemented communication API's in Python and Objective C. Refactored and documented web applications and backend services, data store services that run on AWS and low power PC's. Worked as part of a four member engineering team that spent a lot of long hours working with complex software libraries for video/audio processing.

May '14 - Dec '14 —— Diagnostics Engineer
Arista Networks, Santa Clara, CA

Assisted the hardware team, developed software based automation of PCB verification and manufacturing test system verification as part of the Diagnostics team. Used system comm. protocols like SMBus, I2C and JTAG to facilitate comms and automated multi-level tests in the PCB. Added features to manufacturing test automation infrastructure, written using Python Django.

Sep '13 – Dec '13 —— Software Developer
Trapeze Group, Mississauga, ON

Worked on multiple web applications that relate product development history with code repository statistics. Used Subversion Java API, Java Servlets and the Grails application framework. Improved page load times, database performance and cleaned up internal APIs.

Jan '13 – Apr '13 —— Web Platform Engineer
Morgan Stanley Financial Services, Montreal, ON

Developed document lifecycle workflows for TWiki, a wiki application used as a knowledge base. Gained in-depth knowledge of wiki applications' network configuration, load balancing techniques and site mirroring. Wrote plugins in Perl to implement Document Review workflows based on LDAP User, Group ACLs. Collaborated with team members from New York, Shanghai and Tokyo during an iterative design process.

Education

2010 – '16 **University of Waterloo, ON**
BASc. in Mechatronics Engineering

Software skills

Languages	R, Javascript, Objective-C, C, Python, Java, MATLAB
Tools	emacs, git, tmux, gdb, LaTEX, Xcode, PostgreSQL, MySQL
Platforms	OS X, Linux, Windows, ArduCopter
Frameworks	NodeJS, D3.js, FFmpeg, SailsJS, Django, AngularJS, Bootstrap
Design	HTML, CSS

Projects

'16 **Talon - A Modularized Drone Kit For Delivery Vehicles** talonco.github.io
My team is building an add-on kit for delivery vehicles that enables drone deliveries with integrations for existing warehouse management systems.The kit provides automated package loading and drone take-off, landing

'15 **Video transcoding time prediction for intra-codec conversion** prajis.me/ml_video/
Exploratory analysis of a youtube video characteristics dataset to identify important variables, strong correlations and be able predict video transcoding times between formats. Datset had 4 codecs, various video input/output sizes, bitrates and framerates. Models were built after data-preprocessing, test/training split, k-fold cross-validation, training, model parameter tuning and finally, model cross-validation.

'14 **Autonomous Speed Boat**
In this group project, our team built an autonomous miniature speedboat controlled using an Arduino microcontroller. The boat used infrared sensors for path detection and feedback based control. The hull is 3-d printed with fibreglass epoxy coating to counteract the porous 3d printing material. Responsible for runtime software and control system implementation.

Courses

'16 **Computational Neuroscience**
Study the neurobiological systems that make up the brain and central nervous system and deisng software equivalents.

'16 **Machine Intelligence**
A study of artificial intelligence techniques such as Bayesian frameworks, fuzzy logic, decision trees, neural networks and reinforcement learning

'15 **Image Processing**
A study of human visual system, frequency domain enhancement and image color processing