# 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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## Education

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

## Work experience

Jun '16 - Present —— Research Assistant, Real-time Embedded Systems Lab
University of Waterloo

Make responsive data visuals for the web to pinpoint defects in automotive and aeronautical systems. Investigate machine learning and deep learning techniques including autoencoders, neural nets, Markov Models and ensembles of networks for prognostics and failure detection. Replicate results from openly available research to verify efficacy of aforementioned methods.

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 APIs in Python and Objective C. Worked as part of a four member engineering team that spent long hours working with complex software libraries for multimedia 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.

## Software skills

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| LANGUAGES | Javascript, Objective-C, C, R, 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 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

## 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

'12 Operating Systems
Intro to memory, resource and process management, interrupt handling, concurrent programming, file systems.