Nick Nissen

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Technical and Soft Skills

Programming: Python, C, Javascript, SQL, Git, HTML/CSS, Linux, Docker

Serverless DevOps: Architected the HIPPO Gym framework as a configuration-only deployment to distributed AWS services including ECS,ECR,Rout53,S3,Lambda,SES providing researchers a rapidly deployable, cost-effective, and cost-predictable method of carrying out Human-AI interaction research with global participants over the web.

Client Needs Discovery: Through focused and deliberate questioning, I determined the true needs of IRLL researchers when assessing existing solutions for a Human-AI interaction research framework. I managed to determine the true needs based on the actual research demands and technical background of the research team to provide the appropriate tooling.

Cloud: Completed **AWS Solutions Architect Associate** certification after helping a local business halve their costs while delivering an enhanced customer experience through the development of a serverless email reminder system with easy to use UI for service reps.

Leadership: As I repeatedly did in the military, I have continued to lead by focusing on supporting the needs of team members. When appropriate I have been able to lead Undergraduates, Grad Students, and Post Docs in the IRLL on technical and human factors as the most junior member of the team. People follow not because I tell them what to do, but because I provide support on their path to success. Being a leader means enabling others, it is not about me.

Teamwork: Of my significant experience working on teams as small as 2 and as large as 250, a joint MAJMAD exercise in the north Pacific provided me the opportunity to be a team-member on a USAF aircraft, following commands to the insertion, where on the water I was the On-Scene-Commander in charge of the team of 17 USPJs, 2 USCG Rescue Swimmers and 8 Candian SAR Techs. Then becoming a follower again after the extraction on a USCG aircraft. Teamwork is about being the right thing at the right time for the team.

Teaching: By creating an example for students within the UAIS through teaching workshops and one-on-one sessions on **Git**, **Python**, **HTML/CSS**, **LaTeX** and **DevOps**, along with providing guidance, support, and instruction on teaching, several students have stepped up and began teaching and mentoring more junior students through similar workshops. This leads to enhanced learning of the material for the student teachers and fosters a cooperative and open environment within the UAIS.

Mentoring: By recognizing the diverse needs of the Computing Science students that I interact with on a daily basis, I've become a mentor to several students helping to guide them through situations as diverse as interview prep, job search, military reserve service issues, DevOps, cloud deployments, public speaking, and networking. In Summer 2020 100% of active members had technical or research internships and 90% have TA positions in Fall 2020.

Communication: One of the several position papers written during my SAR career led to the adoption of the CMC MPD during the national Mountain Rescue Equipment Modernization Project. The adoption of the device has been a force-multiplier for 2-person rope rescue teams since it's adoption.

Planning: During the unfolding of the Calgary floods in 2013 I planned the deployment of multiple aircraft, aircrews, and maintenance personnel from 442Sqn to the ongoing disaster while maintaining 24/7 standby within our AOR. This planning was done in just under 4hrs and was executed in large part by ops staff after I deployed on the final aircraft to the disaster.

Organizing: Through consideration of Mechanical and Human Factors, along with the use of historical data to predict potential issues I was able to achieve and maintain a nearly 8x reduction in same-week scheduling changes at 442Sqn and later almost eliminate same-week changes at 103Sqn.

Problem Solving As an Undergraduate I have found that my experience in real-world problem solving has left me with an attention to detail and a drive to find the root-cause of an issue that is uncommon at the undergraduate level.

Education

Bachelor of Science Computing Science, University of Alberta (2018-2023*)

- Open Studies in fall 2018, winter and spring 2019.
- Full Time as First Year CompSci starting fall 2019.
- Anticipated graduation spring 2023.

Emergency Medical Technician, Portage College (2004-2005)

Experience

Undergraduate Teaching Assistant, CMPUT656 Interactive Machine Learning (UofA) (Fall 2020)

- After demonstrating strong teamwork, planning, efficiency and technical ability during the summer 2020 Research term, Prof Matt Taylor hired me as a Teaching Assistant for his Graduate Course in Interactive Machine Learning during the Fall 2020 semester.
- Provide technical support and guidance for students planning Human-AI Interaction studies during the term.
- Provide whatever real-time and offline support required by Prof Taylor in the delivery of the course.
- Predict needs and potential issues in advance, suggesting or implementing solutions so that Prof Taylor can focus on the valuable work that only he can do.

Undergraduate Researcher, Intelligent Robot Learning Laboratory (UofA) (June 2020-present)

- Full-time paid research assistant to Prof Matt Taylor during Summer 2020 and part-time paid during Fall 2020 and Winter 2021 Semesters.
- Designed, Created, then Deployed the HIPPO Gym framework for accelerating Human-AI Interaction research over the web.
- Provided the Lab researchers with a Agent Agnostic framework for rapidly deploying their research projects in an efficient, cost-effective and cost-predictable manner that scales as needed.
- Provide DevOps support to various researchers during the Fall and Winter Terms.

Veterans Rehabilitation Program, Veterans Affairs Canada (2016-present)

- Demonstrated enough dedication, motivation, and intellect to have my Undergraduate Degree program approved and supported (ie Fully Funded).
- Rehab from career ending injuries sustained on-duty.

Search And Rescue Technician, Royal Canadian Air Force (2006-2016)

- Qualified Operational Team Leader on both CH149 Cormorant helicopter and CC115 Buffalo airplane.
- Scheduler at both 442 and 103 Squadrons responsible for maintaining 24/7/365 aircrew standby and training.
- Responsible for effecting the rescue of persons in distress anywhere in Canada at any time.
- Typically led Aircrew response, however also coordinated several Squadron deployments to Major Searches and Disasters involving all aircraft and personnel available.

Emergency Medical Technician, Inter-Hospital Ambulance Services (2005-2006)

Emergency Medical Technician and 911 Dispatcher, Yellowhead Ambulance (2005)

Volunteer Work

Full Stack Developer, Mental Health Copilots (2020-present)

Treasurer/Mentor, Undergraduate Artificial Intelligence Society (2018-present)

Strathcona High School Leadership Program (SCUBA Instructor) (2006-present)

Mount Washington Ski Patrol (2010-2013)