

# Dylan Brenneis

(780) 974-5336 (cell)  
dylan.brenneis@gmail.com

## EDUCATION:

2027 (Anticipated) - MFA in Intermedia; University of Alberta  
2019 - M.Sc. in Mechanical Engineering; University of Alberta  
2016 - B.Sc. in Mechanical Engineering with Biomedical Option; University of Alberta

## EXHIBITED WORKS AND PUBLIC PERFORMANCES:

**Meaning-Making Machine, 2026.** *Installation.* 'Inside Out' Rutherford Library Galleria Sculpture Exhibition, April 9 - May 1, 2026  
**Peripersonal Play (Study), 2025.** *Durational Action (4 hours).* Actions Considering Time Workshop, June 24, 2025.  
**Building Our Future, 2023.** *Live painting.* CAVA and the River City Chamber Orchestra: A Truth Universally Acknowledged, May 28, 2023.  
**Pierrot, 2021.** *Exhibited painting.* CAVA and The River City Chamber Orchestra: Arnold Schoenberg's Pierrot lunaire, Op. 21., July 18, 2021.  
**Armand's Farewell, 2021.** *Live painting.* CAVA and the River City Chamber Orchestra: Unity - Unisson, July 11, 2021.  
**Experience in Five Dimensions, 2021.** *Live Painting.* CAVA and the River City Chamber Orchestra: Solitude, April 25, 2021.  
**The Violin, 2020.** *Live painting.* CAVA and the River City Chamber Orchestra: At the Crossroads, September 27, 2020.  
**The Devil.** *Stage performance.* River City Chamber Orchestra: Igor Stravinsky's A Soldier's Tale, September 28, 2019.  
**The Ballad of Bionic Bodies.** *Original music and lyrics, performed on ukulele.* Science Slam Canada, August 30, 2018.  
**Self-Portrait in 2045, 2017.** *Photograph.* University of Alberta Faculty of Graduate Studies and Research Images of Research Competition. Exhibited April 5 - 30, 2017.  
**Prostheses: Extending the Possibilities.** *Presentation.* 3MT Three Minute Thesis. April 13, 2017.

## RELEVANT WORK EXPERIENCE:

### BLINC Lab, University of Alberta

2023-2025 Research Associate

I managed a medical device development project to study the biological factors of intimate human-machine integration. Our system used vibrations to measure the interface integrity between human bones and implants for prosthetic attachment. I was responsible for team and project management, technical development, and clinical validation.

### DeepMind

2022-2023 Senior Research Engineer, Robotacist, and Lab Manager

I led the aesthetic and electromechanical development of a multi-robot project to study robot learning in shared spaces with humans. My original design considered performance, safety, security, privacy, cost, and human interaction.

2019-2022 Junior Research Engineer, Robotacist, and Lab Manager

I studied the effect of design choices on a robot's capabilities, human perceptions of and interactions with the robot, and the

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resulting research possibilities by creating several designs and prototypes and facilitating discussions to explore these themes. I also studied and published on human-agent interaction in virtual reality.

I managed the lab's resources and equipment, with an average annual budget of ~\$50,000.

## **BLINC Lab, University of Alberta**

2016-2019 Graduate Research Student. *Supervisors: Dr. Patrick Pilarski, Dr. Jason Carey*

I developed an automatically levelling prosthetic wrist control system, used motion-capture to quantify the effect of the technology on human movement patterns, and assessed human perceptions of the technology with qualitative metrics.

2014-2015 Undergraduate Research Student. *Supervisors: Dr. Patrick Pilarski, Dr. Jason Carey*

I created an inexpensive and open-source multi-articulating hand with sensory capabilities to enable research about shared human/AI control of prosthetic limbs. The HANDi Hand has since been constructed and used for research at the German Aerospace Center, ETH Zurich, UC Davis, and the University of Mosel, and is the basis for two independent spin-off designs developed by UC Davis and the University of Padova.

## **SKILLS:**

**Artistic and Creative Skills:** Performance, photography, video, 3D printing, laser cutting, wood working, soldering, painting (acrylics and watercolours), drawing (charcoal, pencil, and ink), hand and machine sewing, lino-cut printing, MIG welding.

**Soft Skills:** Project management, stakeholder collaboration, team leadership, written and verbal communication of both abstract ideas and technical information, public presentation.

**Software Capabilities:** Cursor, SolidWorks, OnShape, Eagle, Altium, computer programming (Python and Arduino), Procreate.

**Technical Skills:** Printed circuit board design and manufacture, literature surveys, designing and running experiments with and without human participants, collecting data, analyzing results.

## **SELECTED PUBLICATIONS:**

**D. J. A. Brenneis**, A. S. Parker, M. B. Johanson, A. Butcher, E. Davoodi, L. Acker, M. M. Botvinick, J. Modayil, A. White, P. M. Pilarski, "Assessing human interaction in virtual reality with continually learning prediction agents based on reinforcement learning algorithms: A pilot study," Adaptive and Learning Agents (ALA) Workshop at AAMAS 2022, 9-10 May 2022, Auckland, NZ. 9 pages.

**A No Brainer, 2019.** *Featured Robot.* New Trail Magazine Article: "How to Build A Robot From Household Junk", by Therese Keller, February 11, 2019.

**D. J. A. Brenneis**, M. R. Dawson, H. Tanikawa, J. S. Hebert, J. P. Carey, P. M. Pilarski, "The Effect of an Automatically Levelling Wrist Control

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System," 2019 IEEE-RAS-EMBS International Conference on Rehabilitation Robotics (ICORR), 24-28 June, 2019, Toronto, Canada, pp. 816-823.

**D. J. A. Brenneis**, M. R. Dawson, P. M. Pilarski, "Development of the HANDi Hand: An Inexpensive, Multi-Articulating, Sensorized Hand for Machine Learning Research in Myoelectric Control," *Proc. of MEC'17: Myoelectric Controls Symposium*, Fredericton, New Brunswick, August 15-18, 2017.

## **GRANTS AND AWARDS:**

2026 - Canada Graduate Research Scholarship - Masters (SSHRC) (\$27,000)  
2026 - Walter H Johns Graduate Fellowship (\$7,100)  
2025 - Alberta Graduate Excellence Scholarship (\$12,000)  
2025 - University of Alberta Graduate Recruitment Scholarship (\$5,000)  
2015 - Undergraduate Research Initiative Stipend (\$5,000)  
2014 - NSERC Undergraduate Student Research Award (\$5,000)