Mechanical Engineering | University of Victoria
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Assistant Professor, Physical AI Systems

The Department of Mechanical Engineering at the University of Victoria invites applications for a tenure-track faculty position from early career academic researchers working in emerging applications of AI in Mechanical Engineering.

The ideal applicant will have a strong foundation in Mechanical Engineering or Mechatronics with a specialization in Physical AI. This role offers the opportunity to move beyond traditional design and directly integrate cutting-edge Artificial Intelligence algorithms into complex real-world mechanical and electromechanical systems.

A successful candidate is expected to demonstrate the deep expertise required to develop and apply AI algorithms that interact directly with physical systems. This specialization is centered on the practical challenge of fusing AI with machinery to enable intelligent action, enhanced performance, and optimization. The application areas for this role include, but are not limited to, domains where mechanical precision meets intelligent systems:

- Energy Systems: Apply their knowledge of thermal and kinetic systems to deploy AI for predictive maintenance on rotating machinery, optimize grid performance, manage renewable energy integration, and dramatically increase the efficiency of energy conversion processes.
- Robotics and Autonomous Systems: Design and implement robust AI control architectures (including advanced topics like deep reinforcement learning) for precise motion planning, complex manipulation, and sophisticated sensing/navigation in dynamic, unstructured environments—the essence of next-generation robotics.
- Uncrewed Systems: Leverage their understanding of vehicle dynamics to develop the core intelligence for autonomous aerial, ground, or underwater platforms. This involves mastering sensor fusion, real-time decision-making, and engineering robust fault detection and recovery mechanisms critical for physical safety.
- Smart Manufacturing Systems: Advance production lines by implementing AI for automated quality control, optimizing process flows to minimize wear and waste, detecting anomalies in real-time, and driving the creation of fully adaptable, next-generation smart factories.

The candidate's technical skill set must seamlessly bridge: Control Theory and System Dynamics Machine Learning, Sensor Technology and Data Analytics, Mechanical/Electromechanical Design. Ultimately, the individual will serve as the vital link, translating abstract AI concepts into reliable, high-performance physical systems that define the future of mechanical engineering.

The successful applicant will:

- be appointed to the Department of Mechanical Engineering at the rank of Assistant Professor;
- become a researcher affiliated with the UVic SeAIR Aspirations Research Cluster.

- contribute to the design and delivery of course based curricula for the Mechanical Engineering undergraduate and graduate degree programs.

The Department of Mechanical Engineering at the University of Victoria offers Bachelors, Masters, and Ph.D. degree programs. We have 30 faculty members, over 550 undergraduate students, and over 140 graduate students. Industrial collaboration enriches our teaching and research activities, and our expertise in Mechatronics and Robotics, Clean Energy Systems, Biomedical Systems, Aerospace and Advanced Vehicles is demonstrated in vibrant undergraduate and graduate curricula that expose our students to cutting-edge engineering tools and technologies. With an excellent collegial atmosphere and strong collaborative spirit, the Department empowers faculty and staff who innovate modes of course delivery, champion project based and experiential learning and enrich the student learning experience across all years of our degree programs. For our faculty, teaching and mentorship extend beyond the classroom as our students participate in various team-based extra-curricular learning activities culminating in international competitions. Our faculty contingent includes winners of institutional, provincial and national awards for teaching excellence. Information on the Department can be found at http://www.uvic.ca/engineering/mechanical/.

The UVic SeAIR (Society Engaged AI and Robotics) Aspirations research cluster was established by the UVic Vice-President Research and Innovation. This interdisciplinary team tackles critical issues related to Human-robot interaction protocols, integration of societal norms and ethical constraints into autonomous decision-making frameworks and develops methods for assessing long term societal and impacts of physical AI deployment.

This research-intensive position benefits from existing infrastructure such as UVic's advanced research computing (ARC) consisting of high-performance computing (HPC) clusters and cloud computing resources. UVic is one of five Canadian institutions that host Digital Research Alliance of Canada HPC infrastructure on site. There has been significant recent renewal of this computing infrastructure, and the successful applicant will work with the UVic Research Computing Services team to assemble required resources in support of their program. These facilities enable the successful applicant to design, build and test innovative AI software and algorithms, and also to develop hands-on experiential learning components in their courses. The successful candidate is expected to leverage these resources to aggressively pursue next-generation AI technologies that can help to transform how AI and related technologies can improve the quality of life within Canada and globally.

The successful candidate will:

- hold (or be on the verge of completing) a Ph.D. in mechanical engineering, or a relevant engineering discipline;
- be a registered professional engineer in Canada, or be eligible to apply for registration with the Engineers and Geoscientists of British Columbia (details available at www.egbc.ca);

- have clear ideas and aspirations to contribute to the Mechanical Engineering Department's drive to increase the diversity of our student population and foster a supportive and inclusive environment for all;
- possess excellent communication skills with an ability to communicate research vision, methods, rationale and impacts across a diverse array of audiences; and
- demonstrate a strong commitment to excellence in undergraduate and graduate engineering education as evidenced by:
    - potential for excellence in teaching courses related to the Mechanical and Mechatronics Engineering disciplines, and,
    - an inclusive approach to mentoring and supervising diverse students both in classroom and in research environments.

The candidate's qualifications, experience, overall market demand and rank will determine a final salary offer. Industry experience is an asset. The salary for this position includes a competitive salary range of $115,000 - $142,000. UVic is committed to offering an equitable and competitive salary, inclusive of a generous benefits package, eligible leaves and pension plan.

Candidates should submit a single PDF document that includes:

1. a cover letter providing an overview of the candidate's qualifications and how their research experience would complement the position as described;
2. a detailed curriculum vitae;
3. a max 2-page description of the candidate's proposed research program;
4. a max 1-page description of the candidate's teaching experience and philosophy;
5. a max 1-page statement on how a commitment to equity, diversity and inclusion would be embodied in the teaching and research activities. In forming their EDI statement, applicants are asked to refer to the Equity Action Plan, particularly its 5 universal goals, and elaborate on how they would build and lead a diverse research team that champions inclusivity, ensures that all members have opportunity to reach their full potential and works to create opportunities for meaningful collaborations across the UVic campus.
6. contact information for four referees.

To be considered, please submit your application package via email to: mech.asst.chair@uvic.ca with the subject line "Physical AI Systems: Asst Prof. position" by 1 May 2026. Applications should be addressed to: Dr. Brad Buckham

UVic is committed to upholding the values of equity, diversity, inclusion and human rights in our living, learning and work environments. In pursuit of our values, we seek members who are eager to actively participate in that shared responsibility. We actively encourage applications from members of historically and systemically marginalized groups. Read our full equity statement.

The University acknowledges the potential impact that career interruptions can have on a candidate's record of research achievement. We encourage applicants to explain in their application the impact that career interruptions have had on their record.

Persons with disabilities who anticipate needing accommodation for any part of the application and hiring process may contact Faculty Relations and Academic Administration in the Office of the VP Academic and Provost at FRrecruit@uvic.ca. Any personal information provided will be maintained in confidence.

In accordance with the University's Equity Plan and pursuant to Section 42 of the BC Human Rights Code, preference will be given to women and gender minorities, racialized minorities, Indigenous Peoples and persons with disabilities. Our search committee will first review the pool of applications from those who self-identify with one of these designated groups. For your application to be considered in this first round of review, you must self-identify in your cover letter. The committee will review other applications in the event that they do not find a suitable candidate in the initial pool.

The Office of the Vice-President Indigenous (OVPI) has introduced the Indigenous Citizenship Declaration (ICD) Policy (GV0810) to affirm declarations of Indigenous citizenship, membership and belonging where these claims result in material advantages, such as employment in an Indigenous-specific position. Shortlisted candidates for Faculty and Librarian positions designated for Indigenous Peoples through Preferential and Limited Hiring Programs (HR6110) will be required to provide a Declaration and Supporting Information in accordance with the ICD Policy.

At this stage, no further action is required of candidates. Only shortlisted applicants being considered for campus visits will be contacted with further instructions to create a NetlinkID and provide a declaration through the ICD Application Portal (ICDPortal.uvic.ca). Those shortlisted candidates who meet the requirements established by the ICD Policy will proceed through the hiring process.

All applicants are strongly encouraged to review the ICD Policy and gather the appropriate supporting information in preparation for short-listing and to prevent delays in hiring.

If you have questions about the ICD Policy prior to receiving those next steps, or if you anticipate requiring an Extended Review, please reach out to our ICD Team at vpiicd@uvic.ca.
For more information about the ICD initiative, please visit the Indigenous Citizenship Declaration website (uvic.ca/ovpi/icd) and please feel free to reach out to vpiicd@uvic.ca if you have specific questions or concerns.

We acknowledge and respect the Lək̓ʷəŋən (Songhees and Xʷsepsəm/Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

Please note that reference and background checks, including credential and degree verification, may be undertaken as part of this recruitment process. Faculty and Librarians at the University of Victoria are governed by the provisions of the Collective Agreement. Members are represented by the

University of Victoria Faculty Association.

All qualified candidates are encouraged to apply. If you are neither a Canadian citizen or permanent resident, please indicate if you are authorized to work in Canada or willingness to apply for authorization, if offered a position contingent upon eligibility and approval from Canadian government authorities.