Postdoc in visual control and modeling of pedestrian and crowd dynamics
Brown University, Fall 2023

A post-doctoral position is available in the VENLab (Virtual Environment Navigation Lab) at Brown University, Providence, RI USA, under the direction of Dr. William H. Warren, Department of Cognitive, Linguistic & Psychological Sciences (CLPS). The full-time, 1-year position begins Fall 2023, with the possibility of renewal for up to 3 years based on satisfactory performance.

The NIH-supported project investigates the visual control of human locomotion in dynamic, crowded environments, with applications to sensory substitution for locomotor guidance in low vision. The postdoc will have primary responsibility for two studies: (1) Comparative simulations of alternative models of collective crowd motion, using an agent-based simulation platform. (2) Implementation and evaluation of assistive technology for guiding locomotion with a vibro-tactile belt, comparing alternative tactile coding of information. (3) In addition, behavioral experiments may focus on spatial and temporal integration of neighbor motions in a crowd. The research involves virtual reality (visual and tactile), dynamical systems modeling, agent-based simulation, and signal processing.

Candidates must hold a Ph.D. in Cognitive Science, Psychology, Engineering, Computer Science, or a closely related field, with a strong research background in perception and action in humans or animals. Excellent computational and modeling skills (Julia/Matlab/Python) are essential; familiarity with signal processing (Arduino) is advantageous; and statistical expertise (R/Matlab) is highly desirable. The candidate must have excellent verbal and written communication skills, be highly motivated, and work well with a team.

If you are interested in applying, please send a CV, a 1-page statement of research interests, and the names of three references to Bill_Warren@brown.edu. Review of materials will begin Aug. 28, 2023, and continue until the position is filled.

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