

# ARNAV SOOD

## overview

I am a researcher and programmer working in computational economics. My projects include [codebases](#) for academic papers, open-source [software packages](#), and [lectures](#).

I have extensive experience with differential equations, Julia, and PyTorch. The latter includes logging frameworks, model debugging, execution on cloud instances like Amazon EC2, and additional tools like PyTorch Lightning.

## employment affiliations

**Consulting Researcher/Programmer** June 2020 — Present

Clients Include: UBC, QuantEcon

**University of British Columbia** June 2018 — June 2020

Predoctoral Fellow, supervised by [Jesse Perla](#)

Guest Lecturer

Member of [Centre for Artificial Intelligence Design and Action](#)

**QuantEcon** Jan. 2019 — Present

Lead Developer

Worked on lecture content, open-source packages, and infrastructure

## publications projects

**Exploiting Symmetry in High-Dimensional Dynamic Programming** w. coauthors

Uses PyTorch to accelerate the solution of economic models, by embedding economic facts in the neural approximator

**Expectations.jl** [Poster](#) from JuliaCon 2020

Provides efficient expectation operators for univariate distributions, using Gaussian quadrature

**InstantiateFromURL.jl** [Talk](#) from JuliaCon 2020

Allows Julia notebooks to refer to online dependency information, boosting reproducibility/mobility

**PerlaTonettiWaugh.jl**

Julia codebase for AER paper. Solves differential-algebraic system along transition and at steady state

**KnowledgeDiffusionSimulations.jl**

Implements large ensemble of jump diffusion equations and track index evolution

## activities

**Free Geek Vancouver** Volunteer Tech Support

**Various Publications** Published Author, Fiction and Nonfiction

## education

**University of British Columbia**

Economics Courses, June 2018 — June 2020

**New York University**

B.A. Mathematics, 2018

Minors in Economics, Philosophy