

Soren Basnet

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Education

Luther College | Decorah, IA

Graduation : May 2025

B.A. in Computer Science, Minor in Mathematics

Honors: Dean's List (2 Semesters), Dean's Scholarship

Relevant Courses: Advanced Algorithms and Data Structures, Data Modeling and Querying, Object-Oriented Programming With Java, Applied Machine Learning, Probability Theory, Experimental Design and ANOVA

University of Wisconsin-Madison | Madison, WI

Graduation : May 2027

M.S. Statistics and Data Science

Relevant Courses: Statistical Methods I, Introduction to Statistical Inference, Classification and Regression Trees, Statistical Learning

Research and Professional Experience

Biostatistician Intern, Mayo Clinic | Rochester, MN

Feb 2024 – August 2025

- Supported machine learning workflows through data preparation, exploratory data analysis (EDA), summary statistics and technical problem-solving using R programming language for an infection prediction model.
- Assisted and conducted Genome-Wide Association Studies (GWAS) using PLINK, REGENIE and Bash scripts on a specific population with particular admixture.
- Performed Heritability Analysis using the statistical tool : GCTA. Achieved a result consistent with existing rate for Chronic Lymphocytic Leukemia concluding strong genetic contribution.
- Attempted Mosaic Chromosomal Alteration (mCA) calls on Whole Exome Sequencing (WES) data using MoChA to identify rare mutations.

Registrar's Office Assistant, Luther College | Decorah, IA

Feb 2022 – Jan 2024

- Optimized digital student and registrar data using JavaScript and Google Apps Script, enhancing data accessibility and automation of routine tasks, improving workflow efficiency and productivity.
- Developed guidebooks and standardized documentation formats for scanned file storage and efficient retrieval, ensuring compliance with FERPA and the sensitive nature of records handled.
- Assisted with clerical tasks, replying to email, answering calls and delivering packages related to the office.

Presentation and Publication

- Yuan Yao, Sameer A. Parikh, Sara Achenbach, Aaron D. Norman, Kari G. Rabe, Nicholas J. Boddicker, Janet E. Olson, Rosalie Griffin, Soren Basnet, Dennis P. Robinson, Mingma Hoel, Alyssa I Clay-Gilmour, Stacey Lehman, Timothy G. Call, James R. Cerhan, Celine M. Vachon, Neil E. Kay, Esteban Braggio, Curtis A. Hanson, Tait D. Shanafelt, Susan L. Slager. (2024). "Prevalence, Genetic Predispositions and Clinical Consequences of Non-CLL-Type MBL: Screening in 10,330 Individuals." *Blood*, 144(Supplement 1), 397. <https://doi.org/10.1182/blood-2024-194932>.
- Soren Basnet, Owen Gruenwald, and Hernan Manzanet. (2024). **Assessing Predictors of Laptop Price Using Multiple Regression**. Presented at Luther College, December 2024.

Projects

Feathr: Social Network Discussion App, Team Member

Sept 2024 – May 2025

- Developed a social network discussion app with a physics-based, simulation-driven concept, utilizing Boids algorithm to create flock-based user interactions.
- Developed interactive front-end modules using Next.js and implemented efficient backend logic in Python, enabling real-time communication between the physics simulation and the social discussion interface.
- Optimized the Boids Algorithm using k-d trees to enhance performance and collaborated with the team to refine architecture and improve functionality.

Technical Skills

Programming Languages: Python (Pandas, NumPy, Scikit-learn, TensorFlow), R, SQL, Bash, SAS

Tools & Platforms: Plink, GCTA, Regenie, Google Cloud Console, MoCha, BCFTools

Operating Systems: Linux, macOS, Windows