

Skye Lane Goetz

Biomedical Research Scientist (AI & Data)

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skye-lane-goetz

SkyeAv

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Work Experience

Institute for Systems Biology (ISB) <i>Research Associate (Data Science) [Hood Lab]</i> Placeholder	Seattle, WA NOV 2024 - PRESENT
Haynes-Zigler Lab (CalPoly) <i>Student Researcher (Computational Subgroup)</i> Placeholder	San Luis Obispo, CA SEP 2024 - NOV 2024
Institute for Systems Biology (ISB) <i>Data Science Intern [Hood Lab]</i> Placeholder	Seattle, WA AUG 2024 - SEP 2024
Institute for Systems Biology (ISB) <i>Summer Intern/Trainee (NSF REU) [Hood-Price Lab]</i> Placeholder	Seattle, WA JUN 2024 - AUG 2024
CalPoly Water-Energy Sustainability Training Team (WESTT) <i>Student Researcher (PHOS and CRIAS projects)</i> Placeholder	San Luis Obispo, CA JAN 2024 - JUN 2024
Compass Group USA <i>Food Service Worker</i> Placeholder	San Luis Obispo, CA JAN 2024 - JUN 2024
General Polymer Solutions (GPS Polymers) LLC <i>Customer Fulfillment and Logistics</i> Placeholder	Upland, CA AUG 2021 - SEP 2023
US Soccer Federation <i>US Soccer Grassroots Referee (Grade 8)</i> Placeholder	Upland, CA JUN 2021 - SEP 2023
Kessen Star Spinners <i>Founder, President, and CEO</i> Placeholder	Upland, CA DEC 2015 - SEP 2016

Skills

Technical Skills
Languages: Python, Elixir, SQL, Shell Scripting, LaTeX, Julia, Nim, Clojure
Data Science: Polars, Spark, Numpy, Matplotlib, Sqlite, Postgres, DuckDB
AI/ML: PyTorch, LightGBM, Scikit-learn, LangChain, Snorkel, Transformers, PEFT, ChromaDB
Knowledge Graphs: Graph Databases, Ontology, KGX, Centrality, Graph Neural Networks
NLP: spaCy, NLTK, Embeddings, Text Classification, TF-IDF
DevOps: Nix, Docker, Setuptools, Mix, Pytest, Kubernetes
Domain Knowledge
Biology: Heterogenous Multiomic Data, Shotgun Metagenomics, Polygenic Risk Scores, ELISA
Chemistry: DFT, Mass Spectrometry, ¹ H NMR, FTIR, Organic Synthesis, Equilibreum
Data Science: PCA, KernelPCA, UMAP, Pearson Correlations, Logistic Regression, Deep Learning, ANOVA
Business: SPIN Selling, Door-To-Door Sales, Product Marketing, Agribusiness, Microeconomics, Macroeconomics
Additional Competencies
Scientific Communication: Lab Meetings, Conference Presentations, Journal Writing, Funding Proposals
Leadership and Collaboration: Mentoring, Team System Design, Knowledge Graph, Microbiome, and Software Consulting

Publications

[1] Skye L. Goetz, Amy K. Glen, and Gwênlyn Glusman. MicrobiomeKG: Bridging Microbiome Research and Host Health Through Knowledge Graphs. *Frontiers in Systems Biology*, 2025.

[2] Karamarie Fecho, Gwênlyn Glusman, Sergio E. Baranzini, Chris Bizon, Matthew Brush, William Byrd, Lawrence Chung, Andrew Crouse, Eric Deutsch, Michel Dumontier, Aleksandra Foksinska, Jennifer Hadlock, Kaiwen He, Sui Huang, Robert Hubal, Gregory M. Hyde, Sharat Israni, Kelyne Kenmogne, David Koslicki, Jana Dorfman Marcette, Ewy A. Mathe, Abrar Mesbah, Sierra A. T. Moxon, Christopher J. Mungall, John Osborne, Carrie Pasfield, Guangrong Qin, Stephen A. Ramsey, Justin Reese, Jared C. Roach, Reese Rose, Karthik Soman, Andrew I. Su, Casey Ta, Gaurav Vaidya, Rosina Weber, Qi Wei, Mark Williams, Chunlei Wu, Colleen Xu,

Chase Yakaboski, and The Biomedical Data Translator Consortium. Announcing the Biomedical Data Translator: Initial Public Release. *Clinical and Translational Science*, 2025.

[3] Guangrong Qin, Kamileh Narsinh, Qi Wei, Jared C. Roach, Arpita Joshi, Skye L. Goetz, Sierra T. Moxon, Matthew H. Brush, Colleen Xu, Yao Yao, Amy K. Glen, Evan D. Morris, Alexandra Ralevski, Ryan Roper, Basazin Belhu, Yue Zhang, Ilya Shmulevich, Jennifer Hadlock, and Gwênlyn Glusman. Generating Biomedical Knowledge Graphs from Knowledge Bases, Registries, and Multiomic Data. *bioRxiv*, 2024.

Education

California State Polytechnic University (Cal Poly) <i>BS Biochemistry</i> <ul style="list-style-type: none">GPA: 3.626/4.000Graduation Date: Spring Quarter 2026Consulted on Machine Learning Senior Projects for Computer Engineering Students<ul style="list-style-type: none">Improved AUC by 0.15Developed and Tried Computational and Machine Learning Techniques for Biochemical Assays in Lab<ul style="list-style-type: none">Improved R² Coefficients by 0.08 on AverageTried Modifications to Organic Syntheses in Lab<ul style="list-style-type: none">Speed Up Cited Procedure by 30 MinutesConsulted on Multinomial Classification Efforts in the Bioinformatics Lab	San Luis Obispo, CA <i>Feb 2024 - Present</i>
California State Polytechnic University, San Luis Obispo <i>BS Agribusiness</i> <ul style="list-style-type: none">Completed 5 Months of Coursework Before Transitioning to BiochemistryWrote a Comprehensive Report on the Economics of the California Almond Industry for the 2022 Growing Season	San Luis Obispo, CA <i>SEP 2023 - FEB 2024</i>

Upland High School <i>High School Diploma</i> <ul style="list-style-type: none">GPA: 4.000/4.000High School Soccer 4 Years<ul style="list-style-type: none">Team Captain 3 YearsVarsity Coaches AwardVarsity Most Improved Player Award2021-2022 Golden BootDesigned (with CAD) and 3D Printed Ceramic Stamps for the Ceramics StudioWrote AP Physics Notes Programs for Class TI84s	Upland, CA <i>AUG 2019 - JUN 2023</i>
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Talks and Presentations

Conference and External	
<ul style="list-style-type: none">This Time on MultiomicsKG: Edge Scoring! NCATS Biomedical Data Translator Fall Relay (Bethesda, MD) SEP 2025Gut Microbiome Signatures of Vegan, Vegetarian, and Omnivore Diets across 21,561 Individuals ISB Micro Journal Club (Seattle, WA) AUG 2025Updates on the New MultiomicsKG NCATS Biomedical Data Translator Summer Relay (Bethesda, MD) JUN 2025MicrobiomeKG: Extracting Relationships between the Microbiome and Host Health from Published Supplementary Materials Cal Poly Bailey College Research Symposium (San Luis Obispo, CA) MAY 2025MultiomicsKG: Extracting Knowledge Assertions from Tabular Data in Supplementary Materials NCATS Biomedical Data Translator Spring Relay (Bethesda, MD) FEB 2025MicrobiomeKG (v0.1): A Microbiome-Centric Knowledge Graph Facilitating Human Reasoning Across the Biomedical Domain ISB Summer Research Poster Session (Seattle, WA) JUN 2024	

Group and Lab	
<ul style="list-style-type: none">This Time on MultiomicsKG: Edge Scores and Agentic Configurators ISB Hood Lab Meeting (Seattle, WA) AUG 2025MicrobiomeKG: Connecting the Microbiome and Host Health through Knowledge Graphs ISB Thorsson-Shmulevich Lab Meeting (Seattle, WA) JUL 2025MicrobiomeKG: Connecting the Microbiome and Host Health through Knowledge Graphs ISB Gibbons Lab Meeting (Seattle, WA) JUL 2025Tablassert(3.0): Transforming Tabular Data Into Knowledge Graphs ISB Hood Lab Meeting (Seattle, WA) FEB 2025MicrobiomeKG: Story of My Internship at ISB ISB Hood-Price Lab Meeting (Seattle, WA) AUG 2024	

Projects

Tablassert <i>Placeholder</i> <ul style="list-style-type: none">Placeholder	Placeholder <i>Placeholder - Placeholder</i>
MultiomicsKG (and MicrobiomeKG) <i>Placeholder</i> <ul style="list-style-type: none">Placeholder	Placeholder <i>Placeholder - Placeholder</i>
Table Config Agent <i>Placeholder</i>	Placeholder <i>Placeholder - Placeholder</i>

○ Placeholder

Clinical Trials Classifier

Placeholder

○ Placeholder

Placeholder

Placeholder - Placeholder