

Application: 4805

Deep Genomics

Page: General Information

Provide information about the company to be considered for the award. If you will be nominating an individual, specify the nominee's employer.

Name of Organization/Company

Deep Genomics

Additional Contacts

I do not wish to list additional contacts

Page: Entry Information

Entry Title

Deep Genomics

Category

G01. Company of the Year - Biotechnology

Company of the Year Submission Format

Written Answers

a. Briefly describe the nominated company's history and past performance (up to 200 words). Required

TechBio company Deep Genomics harnesses the power of artificial intelligence and cutting-edge biological insights to revolutionize genomic research and development. The company was founded in 2015 by Brendan Frey, Ph.D., an early pioneer in developing AI systems that could accurately predict normal and pathological cell and genome biology, facilitating biomedical breakthroughs. Dr. Frey has authored 200+ papers in the fields of deep learning, genomic medicine, and information technology.

Dr. Frey has laid the foundation for many subsequent breakthroughs and dozens of startup companies, coining terms like 'programmable' and 'digital' medicines with reference to RNA therapeutics. Since its inception in 2015, Deep Genomics led the charge in AI for RNA biology and therapeutics. This work even led to discovering a novel treatment target and corresponding drug candidate for Wilson disease, a rare and serious genetic disorder.

In 2023, Deep Genomics unveiled BigRNA, the first AI Foundation model for decoding RNA biology and designing therapeutics. With the power of AI growing exponentially, this technology bridges the fundamental gap between the ability to measure mutations, understand their consequences on molecular and cell biology, identify targets, and create precision treatments. BigRNA is paving the way to decode RNA biology and program life-changing medicines.

b. Outline the nominated company's achievements since the beginning of 2022 that you wish to bring to the judges' attention (up to 250 words). Required

Since 2022, Deep Genomics has emerged as a pioneer of genomic research and development. BigRNA takes any gene sequence as input and can then accurately predict thousands of different molecular biology outcomes, enabling the discovery of targets, disease mechanisms and RNA therapeutics across a wide range of diseases, tissue types, and genetic architectures. BigRNA also enables rapid exploration of RNA biology at scale, from species, tissues, cell models, variants, genes, oligos, and editing, including mechanisms of splicing, polyadenylation, protein/microRNA binding, in vitro validation, and support for multiple therapeutic modalities.

Recent milestones demonstrating the company's ability to attract top talent, maintain industry leadership, and the company's growth trajectory include:

- New office and lab in Cambridge, Massachusetts
- Expansion of its flagship Toronto office
- Key executive appointments including: Brian O'Callaghan as Chief Executive Officer, Radu Dobrin, Ph.D., as Chief Technology Officer, Greg Hoffman, Ph.D, as Chief Scientific Officer, Joel Shor as VP and Head of Machine Learning, and Clive Bertram as Chief Business Officer

Deep Genomics consistently promotes innovation in the industry as demonstrated by its active participation in high-profile, scientific conferences and publications. Notable appearances since 2022 include:

- NVIDIA Toronto AI Ecosystem: Fireside chat with Jensen Huang
- Elevate: AI in Medicine
- Oligonucleotide Therapeutics Society Meeting: BigRNA

During Google I/O 2024, Google Cloud announced a collaboration with Deep Genomics. Deep Genomics' usage of 6th generation Trillium TPUs will amplify the training and inference of its AI Foundation model over one hundred fold.

c. Explain why the achievements you have highlighted are unique or significant. If possible compare the achievements to the performance of other companies in the firm's industry and/or to the company's own past performance (up to 250 words). Required

Deep Genomics has established itself as an industry leader by placing AI at the forefront of genomic research and development. The company has done so through its unique approach to:

Technology & Partnerships:

- The landmark creation of BigRNA reflects the company's momentum in merging cutting-edge AI with biological science.
- Deep Genomics recently attended Google Cloud's Startup GenAI Roundtable to discuss how businesses can leverage AI for innovation and the pressing ethical considerations of AI.
- Deep Genomics also open-sourced GenomeKit, a set of tools for accessing and manipulating genomes, in order to create a broader cultural shift towards openness.
- The company's unique approach to partnerships with pharmaceutical companies will modernize early-stage R&D, meaning greater industry exposure, financial backing, and opportunities for growth.
- While Deep Genomics cannot disclose proprietary results, the emphasis of the company's early research on RNA expression and biology regulation is leading to exciting findings for accelerated discovery of druggable targets and RNA therapeutics, and earlier elimination of untreatable targets as well.

Leadership & Culture:

- Deep Genomics has a unique interdisciplinary approach, with a purpose-built team, to combine AI and biology expertise, as showcased by the diverse scientific background of its executive team.
- Multilingualism is emphasized as a core value across the company to help reduce barriers between teams.
- The company directly facilitates sharing and understanding between wet labs and dry labs.
- Founder Dr. Frey was recently honored by Business Insider as a top leader in AI healthcare.

d. Reference any attachments of supporting materials throughout this nomination and how they provide evidence of the claims you have made in this nomination (up to 250 words). Optional

Press release with background on BigRNA: <https://www.deepgenomics.com/news/most-advanced-ai-foundation-model-for-rna/>

Press release with background on Toronto office expansion, new hire announcements, and Boston office launch: <https://www.deepgenomics.com/news/deep-genomics-expands-executive-leadership-and-operations-latest-strategic-growth-initiative/>

Google blog post on Deep Genomics partnership: <https://cloud.google.com/blog/products/compute/introducing-trillium-6th-gen-tpus/>

Business Insider article featuring Brendan: <https://www.businessinsider.com/ai-100-top-artificial-intelligence-healthcare-2023-11>

NVIDIA Fireside chat: <https://blogs.nvidia.com/blog/canada/>

Elevate Festival: <https://vimeo.com/871858093/b77b51bb93?share=copy>

Oligonucleotide Therapeutics Society Meeting: <https://vimeo.com/901290527/6922a2e9e3?share=copy>

Webpage Link

<https://www.deepgenomics.com/news/most-advanced-ai-foundation-model-for-rna/>
(<https://www.deepgenomics.com/news/most-advanced-ai-foundation-model-for-rna/>)

Would you like to add an additional webpage link?

Yes

Webpage Link 2

<https://www.deepgenomics.com/news/deep-genomics-expands-executive-leadership-and-operations-latest-strategic-growth-initiative/> (<https://www.deepgenomics.com/news/deep-genomics-expands-executive-leadership-and-operations-latest-strategic-growth-initiative/>)

Would you like to add an additional webpage link?

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Webpage Link 3

<https://cloud.google.com/blog/products/compute/introducing-trillium-6th-gen-tpus/>
(<https://cloud.google.com/blog/products/compute/introducing-trillium-6th-gen-tpus/>)

Would you like to add an additional webpage link?

Yes

Web Page Link 4

<https://www.businessinsider.com/ai-100-top-artificial-intelligence-healthcare-2023-11>
(<https://www.businessinsider.com/ai-100-top-artificial-intelligence-healthcare-2023-11>)

Would you like to add an additional webpage link?

Yes

Web Page Link 5

<https://blogs.nvidia.com/blog/canada/> (<https://blogs.nvidia.com/blog/canada/>)

Would you like to add an additional webpage link?

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Web Page Link 6

<https://vimeo.com/871858093/b77b51bb93?share=copy> (<https://vimeo.com/871858093/b77b51bb93?share=copy>)

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Web Page Link 7

<https://vimeo.com/901290527/6922a2e9e3?share=copy> (<https://vimeo.com/901290527/6922a2e9e3?share=copy>)

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No

Supporting Document

No File Uploaded

Would you like to add an additional supporting document?

No

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(<https://www.asia.stevieawards.com/rules-and-terms-conditions-competition>).

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