Dave Van Veen

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EDUCATION

Stanford University - Ph.D. in Electrical Engineering — 2021 – 2024

Focus:	Multimodal AI in medicine, computational imaging
Advisors:	John Pauly, Akshay Chaudhari
Thesis:	Data-Efficient Machine Learning for Image Reconstruction and Text Summarization in Biomedicine
Certificate:	Entrepreneurship (Ignite) - Graduate School of Business
GPA:	4.0 / 4.0

University of Texas - M.S. in Electrical Engineering — 2017 – 2019

Focus:	Machine learning, inverse problems
Advisors:	Alexandros Dimakis, Sriram Vishwanath
Thesis:	Compressed sensing recovery with unsupervised neural networks
GPA:	3.8 / 4.0

University of Wisconsin - B.S. in Electrical Engineering — 2012 – 2016

Advisor:	John Booske
Capstone:	Led 150-person team to design and build a hyperloop pod for SpaceX
GPA:	3.9 / 4.0

EXPERIENCE

Principal AI Scientist, HOPPR | Menlo Park, CA — 2024 – Present
Building multimodal medical foundation models as a technical lead and IC

Graduate Research Asst., Stanford University | Stanford, CA — 2021 – 2024
Conducted research in multimodal AI for medicine and computational imaging

Research Intern, Machine Learning Group at TUM | Munich, Germany — 2023
Designed image reconstruction methods for computational biology

Machine Learning Research Scientist, Subtle Medical | Menlo Park, CA — 2019 – 2021
Developed real-time video denoising algorithms for clinical deployment

Research Scientist, Center for AI in Medicine and Imaging | Stanford, CA — 2020 – 2021
Developed unsupervised machine learning methods for MRI acceleration

Research Fellow, Data Science for Social Good | London, UK — 2019
Built a machine learning pipeline to streamline cardiologists' workflow

Graduate Research Asst., University of Texas | Austin, TX — 2017 – 2019
Developed machine learning algorithms for compressed sensing recovery

President + Co-founder, Badgerloop | Madison, WI — 2015 – 2017
Founded and led 150-person organization to build a hyperloop pod for SpaceX

Research Intern, QBE Digital Innovation Lab | Madison, WI — 2017
Built data pipelines and detection algorithms for satellite imaging projects

Electrical Engr. + Project Mgmt. Intern, Boeing | Seattle, WA — 2016
Designed power distribution systems and created plan to save $2.8M/yr

Aquatics Supervisor, City of Madison | Madison, WI — 2014 – 2015
Hired and supervised 100+ employees. Managed budget of $250K

Undergraduate Research Asst., UW-Madison BME Dept. | Madison, WI — 2013 – 2014
Performed statistical analysis on cellular biomechanic experiments

PUBLICATIONS JOURNALS

[J7] L. Blankemeier, A. Kumar, J.P. Cohen, D. Van Veen, S.J.S. Gardezi, M. Paschali, Z. Chen, J.B. Delbrouck, E.P. Reis, C. Truyts, C. Bluethgen, M. Engmann, J. Kjeldskov, S. Ostmeier, M. Varma, J.M.J. Valanarasu, Z. Fang, Z. Huo, Z. Nabulsi, D. Ardila, W. Weng, E. Amarao, N. Ahuja, J. Fries, N. Shah, A. Johnston, R.D. Boutin, A. Wentland, C.P. Langlotz, J. Hom, S. Gatidis, A.S. Chaudhari, "Merlin: A Vision Language Foundation Model for 3D Computed Tomography," in *Nature* (accepted in principle), 2025.

[J6] C. Bluethgen, D. Van Veen, C. Zakka, K. Link, A. Fanous, R. Daneshjou, C.P. Langlotz, S. Gatidis, A.S. Chaudhari, "Best Practices for Large Language Models," in *Radiology*, 2025.

[J5] A. Aali, D. Van Veen, Y.I. Arefeen, J. Hom, C. Bluethgen, E.P. Reis, S. Gatidis, N. Clifford, J. Daws, A.S. Tehrani, J. Kim, A.S. Chaudhari, "A Dataset and Benchmark for Hospital Course Summarization with Adapted Large Language Models," in *Journal of the American Medical Informatics Association (JAMIA)*, 2025.

[J4] D. Larson, A. Koirala, L. Cheuy, M. Paschali, D. Van Veen, H.S. Na, M.B. Petterson, Z. Fang, A.S. Chaudhari, "Assessing Completeness of Clinical Histories Accompanying Imaging Orders Using Adapted Open-Source and Closed-Source Large Language Models," in *Radiology*, 2025.

[J3] D. Van Veen, C. Van Uden, L. Blankemeier, J.B. Delbrouck, A. Aali, C. Bluethgen, A. Pareek, M. Polacin, E.P. Reis, A. Seehofnerova, N. Rohatgi, P. Hosamani, W. Collins, N. Ahuja, C.P. Langlotz, J. Hom, S. Gatidis, J. Pauly, A.S. Chaudhari, "Adapted Large Language Models Can Outperform Medical Experts in Clinical Text Summarization," in *Nature Medicine*, 2024.

[J2] D. Van Veen, J.G. Galaz-Montoya, L. Shen, P. Baldwin, A.S. Chaudhari, D. Lyumkis, M.F. Schmid, W. Chiu, J. Pauly, "Missing Wedge Completion via Unsupervised Learning with Coordinate Networks," in *International Journal of Molecular Sciences (IJMS)*, 2024.

[J1] A. Gatti, L. Blankemeier, D. Van Veen, B. Hargreaves, S.L. Delp, G.E. Gold, F. Kogan, A.S. Chaudhari, "ShapeMed Knee: A Dataset and Neural Shape Model Benchmark for Modeling 3D Femurs," in *IEEE - Transactions on Medical Imaging (TMI)*, 2024.

CONFERENCES

[C8] J. Xu, X. Zhang, J. Abderezaei, J. Bauml, R. Boodoo, F. Haghighi, A. Ganjizadeh, E. Brattain, D. Van Veen, Z. Meng, D. Eyre, J.-B. Delbrouck, "RadEval: A Framework for Radiology Text Evaluation," in *Empirical Methods in Natural Language Processing (EMNLP)*, 2025.

[C7] J.B. Delbrouck, Z. Chen, M. Varma, P. Chambon, A. Johnston, L. Blankemeier, D. Van Veen, T. Bui, S. Truong, C.P. Langlotz, "RadGraph-XL: A Large-Scale Expert-Annotated Dataset for Entity and Relation Extraction from Radiology Reports," in *Association for Computational Linguistics (ACL)* (findings), 2024.

[C6] D. Van Veen*, C. Van Uden*, M. Attias, A. Pareek, C. Bluethgen, M. Polacin, W. Chiu, J.B. Delbrouck, J.M. Zambrano Chaves, C.P. Langlotz, A.S. Chaudhari, J. Pauly, "RadAdapt: Radiology Report Summarization via Lightweight Domain Adaptation of Large Language Models," in *Association for Computational Linguistics (ACL) BioNLP* (oral), 2023.

[C5] D. Van Veen, R. van der Sluijs, B. Ozturkler, A. Desai, C. Bluethgen, R. Boutin, M. Willis, G. Wetzstein, D. Lindell, S. Vasanawala, J. Pauly, A.S. Chaudhari, "Scale-Agnostic Super-Resolution in MRI using Feature-Based Coordinate Networks," in *Medical Imaging with Deep Learning (MIDL)*, 2022.

[C4] D. Lindell, D. Van Veen, J.J. Park, G. Wetzstein, "BACON: Band-limited coordinate networks for multiscale scene representation," in *Conference on Computer Vision and Pattern Recognition (CVPR)* (oral), 2022.

[C3] D. Van Veen, B. Duffy, L. Wang, K. Datta, T. Zhang, G. Zaharchuk, E. Gong, "Real-Time Video Denoising to Reduce Ionizing Radiation Exposure in Fluoroscopic Imaging," in *Medical Image Computing and Computer Assisted Intervention (MICCAI) - Machine Learning for Medical Imaging Reconstruction (MLMIR)* (spotlight), 2021.

[C2] W. Toussaint, D. Van Veen, C. Irwin, Y. Nachmany, et al., "Design Considerations for High Impact, Automated Echocardiogram Analysis," in *International Conference of Machine Learning (ICML) - Global Health*, 2020.

[C1] D. Van Veen, A. Jalal, E. Price, S. Vishwanath, A.G. Dimakis, "Compressed Sensing Recovery of Medical Images using Deep Image Prior," in *Neural Information Processing Systems (NeurIPS) - Med-NeurIPS*, 2018.

BOOK CHAPTERS

[B1] A.G. Dimakis, A. Bora, D. Van Veen, A. Jalal, S. Vishwanath, E. Price, "Deep Generative Models and Inverse Problems," in *Mathematical Aspects of Deep Learning*, Cambridge University Press, vol. 400, 2022.

PRE-PRINTS

[P5] C. Bluethgen, D. Van Veen, D. Truhn, J.N. Kather, M. Moor, M. Polacin, A. Chaudhari, T. Frauenfelder, C.P. Langlotz, M. Krauthammer, F. Nooralahzadeh, "Agentic Systems in Radiology: Design, Applications, Evaluation, and Challenges," in *arXiv preprint arXiv:2510.09404*, 2025.

[P4] Z. Chen, M. Varma, J.B. Delbrouck, M. Pachali, L. Blankemeier, D. Van Veen, J.M.J. Valanarasu, A. Youssef, J.P. Cohen, E.P. Reis, E.B. Tsai, A. Johnston, C. Olsen, T.M. Abraham, S. Gatidis, A.S. Chaudhari, C.P. Langlotz, "CheXagent: Towards a Foundation Model for Chest X-Ray Interpretation," in *arXiv preprint arXiv:2401.12208*, 2024.

[P3] A. Aali, D. Van Veen, Y.I. Arefeen, J. Hom, C. Bluethgen, E.P. Reis, S. Gatidis, N. Clifford, J. Daws, A.S. Tehrani, J. Kim, A. Chaudhari, "MIMIC-IV-Ext-BHC: A Labeled Clinical Notes Dataset for Hospital Course Summarization," in *PhysioNet*, 2024.

[P2] A. Aali, A. Johnston, L. Blankemeier, D. Van Veen, L.T. Derry, D. Svec, J. Hom, R.D. Boutin, A.S. Chaudhari, "Detecting Underdiagnosed Medical Conditions with Deep Learning-Based Opportunistic CT Imaging," in *arXiv preprint*, 2024.

[P1] D. Van Veen, A. Jalal, M. Soltanolkotabi, E. Price, S. Vishwanath, A.G. Dimakis, "Compressed Sensing with Deep Image Prior and Learned Regularization," in *arXiv preprint arXiv:1806.06438*, 2020.

ABSTRACTS

[A6] A.R. Pattnaik, D. Van Veen, H. Kale, M.A.T. Chaudhry, S. Koyejo, L. Lagari, W. Boonn, K. Siddiqui, A. Pyrros, "Fine-Tuning a Radiograph Foundation Model for Cross-Modality Prediction of Osteoporosis Risk from CT-Derived Surface Meshes," in *Radiology Society of North America (RSNA)*, 2025.

[A5] D. Larson, A. Koirala, L. Cheuy, M. Paschali, D. Van Veen, H.S. Na, M.B. Petterson, Z. Fang, A.S. Chaudhari, "Evaluating Completeness of Clinical Histories Accompanying Imaging Orders using Adapted Open-Source and Proprietary Large Language Models," in *Radiology Society of North America (RSNA)* (oral), 2024.

[A4] A. Gatti, L. Blankemeier, D. Van Veen, B. Hargreaves, S. Delp, F. Kogan, G. Gold, A.S. Chaudhari, "Neural Shape Models Meaningfully Localize Features Relevant to Osteoarthritis Disease: Data from the Osteoarthritis Initiative," in *The International Society for Magnetic Resonance in Medicine (ISMRM)* (oral), 2024.

[A3] A. Gatti, D. Van Veen, G. Gold, S. Delp, A.S. Chaudhari, “Neural Shape Models Predict Knee Pain Better than Conventional Statistical Shape Models: Data from the Osteoarthritis Initiative,” in *The International Society for Magnetic Resonance in Medicine (ISMRM)* (summa cum laude), 2023.

[A2] D. Van Veen, A. Desai, R. Heckel, A.S. Chaudhari, “Using Untrained Convolutional Neural Networks to Accelerate MRI in 2D and 3D,” in *The International Society for Magnetic Resonance in Medicine (ISMRM)*, 2021.

[A1] K. Slavkova, J.C. DiCarlo, D. Van Veen, A.K. Syed, A. Jalal, J. Virostko, A.G. Sorace, A.G. Dimakis, T. E. Yankeelov, “Implementing Compressed Sensing with Deep Image Prior to Reconstruct Undersampled Dynamic Contrast-Enhanced MRI Data of the Breast,” in *The International Society for Magnetic Resonance in Medicine (ISMRM)*, 2020.

PATENTS

[2] E. Gong, B. Duffy, D. Van Veen, K. Datta, “Systems and Methods for Real-Time Video Denoising,” Patent no. WO2022265875, 2022.

[1] D. Van Veen, L. Wang, T. Zhang, E. Gong, B. Duffy, “Systems and Methods for Real-Time Video Enhancement,” Patent no. WO2021163022, 2021.

GRANTS

[3] A.S. Chaudhari, R. Daneshjou, P. Liang, D. Van Veen, et al., ”Improving the patient experience: LLMs for results interpretation and discharge paperwork,” Advanced Research Projects Agency for Health (ARPA-H), National Institutes of Health (NIH) Award AY2AX000045, 2024.

[2] D. Van Veen, E. Gong, G. Zaharchuk, E. Carragee, B. Duffy, “Real-time AI-enhanced Low Dose Fluoroscopy,” National Institute of Health (NIH) Small Business Innovation Research (SBIR) Award FOA PA-20-260, 2021.

[1] S. Vishwanath, D. Van Veen, J. Tamir, et al., “Adaptive Machine Learning Techniques for Signal Identification, Classification, and Recovery,” Office of Naval Research, Award N00014-19-1-2590, 2019.

AWARDS & HONORS

- Ignite Member, Stanford Graduate School of Business 2024
- Technical Founder Fellow, Cardinal Ventures 2024
- Best Poster, AI in Medicine and Imaging Conference 2023
- Graduate Research Fellow, Stanford Club of Germany 2023
- Google’s Distinguished Poster Award, SCIEN Meeting 2021
- Data Science for Social Good Fellow 2019
- Badgerloop 2015-2017
  - SpaceX Hyperloop Competition: Innovation Award
  - University of Wisconsin Dean’s Excellence Award
  - SpaceX Hyperloop Competition: 3rd place in design (1800 entries)
- University of Wisconsin 2012-2016
  - Innovative Signal Analysis Award
  - Academic Excellence Scholarship, State of Wisconsin
  - Merit Scholarship, Electrical and Computer Engineering Dept.
  - Merit Scholarship, Biomedical Engineering Dept.
- Valedictorian, McFarland High School 2012

INVITED TALKS

- “Adapting Large Language Models for Clinical Text Summarization,” Apple ML Health Workshop, Cupertino, CA, 2024.

- “Adapting Large Language Models for Clinical Text Summarization,” Artificial Intelligence and Machine Learning for Mental Health Seminar Series (AI4MH) at Oxford University, Virtual, 2024.
- “Adapting Large Language Models for Clinical Text Summarization,” Stanford Hospital Division of Medicine Grand Rounds, Stanford, CA, 2024.
- “Adapting Large Language Models for Clinical Text Summarization,” Global Observatory Long Term Care Data Science Group at London School of Economics, Virtual, 2024.
- “Adapting Large Language Models for Clinical Text Summarization,” Memorial Sloan Kettering Cancer Center, Virtual, 2023.
- “Signal Reconstruction with Unsupervised Neural Networks,” Data Days Mexico City, Virtual, 2020.
- “Inverse Problems with Generative Models,” UC - Berkeley’s Computational Imaging Group, Berkeley, CA, 2019.
- “Increasing the Efficiency of Heart Diagnosis with Machine Learning,” University of Salamanca Hospital, Salamanca, Spain, 2019.