Jeffery R. (Jeff) Price

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Mission-driven leader with a track record of success in R&D, startup, and corporate environments. Group Leader, Manufacturing Systems Analytics at ORNL since March 2024. Veteran of the U.S. Navy. Graduate with Distinction from the U.S. Naval Academy (B.S. Electrical Engineering). Ph.D. and M.S. in Electrical and Computer Engineering from the Georgia Institute of Technology.

PRIOR PROFESSIONAL EXPERIENCE

Cubic Transportation Systems   **January 2019 - September 2023**

VP & General Manager, ITS (2021-23) / VP & General Manager, GRIDSMART (2019-21) / VP Technology (2019)

- Led global organization of 170+, owning full P&L accountability for ~$100 million annual revenue spanning both product and project accounting.
- Integrated three acquisitions, navigating multiple reorganizations and corporate transformations.
- Delivered highest-ever bookings in FY22, first time >$100 million for ITS segment.
- Turned around a degraded relationship with important large-city customer (top 20 U.S. city).
- Managed GRIDSMART post-acquisition with high employee engagement and outstanding financial performance, achieving 14% post-acquisition CAGR and exceeding three-year acquisition profit targets by 31%.

GRIDSMART Technologies, Inc.   **February 2008 - January 2019**

Chief Technology Officer (2013-19) / Director Software Engineering (2010-13) / Computer Vision Engineer (2008-10)

- Key cross-functional player in building from product inception to ~$45 million revenue at 21% CAGR over 2018-23, achieving profitable exit for investors with Cubic acquisition in January 2019 for $87 million.
- Led company Intellectual Property Program resulting in 22 provisional filings and 17 granted patents.
- Key contributor to rebrand in 2014-15. Conceived, designed, and gave product and sales presentations. Created, documented, and trained others on sales pitch in 2013-14 as we rebuilt sales from the ground up.
- Created scalable on-premise and cloud-based test suites for the computer vision engine.
- Co-creator of the computer vision engine for the product, from first lines of code in February 2008.

Oak Ridge National Laboratory | R&D Staff   **June 2000 - February 2008**

Performed applied computer vision and machine learning across biomedical imaging, industrial inspection, and biometrics. Developed code put into real-world use by both industry and government sponsors. Served on Seed Money review committee, allocating seed funding to promising early-stage R&D. Primary inventor on three patents, co-inventor on another. Mentored interns and post-doctoral researchers.

University of Tennessee | Research Assistant Professor   **August 1999 - June 2000**

Focused, directed, and advised M.S. and Ph.D. students in computer vision research. Guided students in writing conference and journal papers. Assisted with grant and proposal writing.

Kodak Research Laboratories | Doctoral Intern   **June 1998 - October 1998**

Developed improved JPEG decompression that was incorporated into commercial products and generated two papers. Developed JPEG artifact reduction that was incorporated into commercial products and patented.

JOURNAL PUBLICATIONS / BOOK CHAPTERS

M. Yazdani, M. Sarvi, S.A. Bagloee, N. Nassir, **J. Price**, H. Parineh. *Intelligent vehicle pedestrian light (IVPL): A deep reinforcement learning approach for traffic signal control* in Transportation Research Part C, vol. 149, April 2023.

K. Tobin, E. Chaum, J. Gregor, T. Karnowski, **J. Price**, J. Wall. *Image Informatics for Clinical and Preclinical Biomedical Analysis* in Computational Intelligence in Medical Imaging: Techniques & Applications, CRC Press, November 2008.

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M. Le Puil, J. Biggerstaff, B. Weidow, **J. Price**, S. Naser, D. White, R. Alberte. "A novel fluorescence imaging technique combining deconvolution microscopy and spectral analysis for quantitative detection of opportunistic pathogens," Journal of Microbiological Methods, vol. 67, no. 3, pp. 597-602, 2006.

K. Tobin, B. Badhuri, E. Bright, A. Cheriyadat, T. Karnowski, T. Potok, **J. Price**. "Automated feature generation in large-scale geospatial libraries for content-based indexing," Photogrammetric Engineering & Remote Sensing, vol. 72, no. 5, pp. 2006.

M. Simpson, M.-D. Cheng, T. Dam, K. Lenox, **J. Price**, J. Storey. "Intensity-modulated, stepped frequency CW LIDAR for distributed aerosol and hard target measurements," Applied Optics, vol. 44, no. 33, pp. 7210-7217, November 2005.

J. Price, D. Aykac, S. Gleason, K. Chourey, Y. Liu. "Quantitative Comparison of Mitotic Spindles by Confocal Image Analysis," Journal of Biomedical Optics, vol. 10, no. 4, 044012, July/August 2005.

J. Price, T. Gee. "Face Recognition using Direct, Weighted Linear Discriminant Analysis and Modular Subspaces," Pattern Recognition, vol. 38, no. 2, pp. 209-219, 2005.

P. Bingham, **J. Price**, K. Tobin, T. Karnowski. "Semiconductor Sidewall Shape Estimation," SPIE Journal of Electronic Imaging, vol. 13, no. 3, pp. 474-485, July 2004.

W. Gray, **J. Price**, C. Dumont, M. Abidi. "Integration of Multiple Range and Intensity Image Pairs using a Volumetric Method to Create Textured Three-dimensional Models," SPIE Journal of Electronic Imaging, vol. 10, no. 1, pp. 252-262, January 2001.

J. Price, M. Rabbani. "Biased Reconstruction for JPEG Decoding," IEEE Signal Processing Letters, vol. 6, no. 12, pp. 297-299, December 1999.

J. Price, M. Hayes III. "Resampling and Reconstruction with Fractal Interpolation Functions," IEEE Signal Processing Letters, vol. 5, no. 9, pp. 228-230, September 1998.

CONFERENCE PUBLICATIONS

T. Karnowski, R. Tokola, S. Oesch, M. Eicholtz, **J. Price**, T.Gee, H. Qi. "Estimating vehicle fuel economy from overhead camera imagery and application for traffic control." Proceedings of Intelligent Robotics and Industrial Applications using Computer Vision (IS&T Electronic Imaging), January 2020.

W. Wang, T. Gee, **J. Price**, H. Qi. "Real time multi-vehicle tracking and counting at intersections from a fisheye camera." Proceedings of the IEEE Winter Conference on Applications of Computer Vision (WACV), January 2015.

J. Price, T. Gee. "Omnidirectional imaging and computer vision for transportation applications: from conception to deployment." Proceedings of the 8th ITS European Congress, June 2011.

J. Price, T. Gee, J. Goddard, T. Karnowski. "Stabilizing fisheye video from a light-mounted camera." Proceedings of the 15th World Congress on Intelligent Transportation Systems, November 2008.

V. Paquit, **J. Price**, F. Meriaudeau, K. Tobin. "Improving light propagation Monte Carlo Simulations with Accurate 3D modeling of skin tissue." Proceedings of the IEEE International Conference on Image Processing (ICIP), 2008.

V. Paquit, **J. Price**, F. Meriaudeau, K. Tobin. "Simulation of skin reflectance images using 3D tissue modeling and multispectral Monte Carlo light propagation." Proceedings of the 2008 Engineering in Medicine and Biology Conference (EMBC), 2008.

V. Paquit, F. Meriaudeau, **J. Price**, K. Tobin. "Multispectral imaging for subcutaneous structures classification and analysis." Proc. of Optical Sensing and Artificial Vision (OSAV), May 2008.

V. Paquit, **J. Price**, F. Meriaudeau, K. Tobin. "3D multispectral light propagation model for subcutaneous vein imaging." Proc. of Physics of Medical Imaging (SPIE Medical Imaging Symposium), SPIE vol. 6913, March 2008.

J. Price, T. Gee, V. Paquit, K. Tobin. "On the Efficacy of Correcting for Refractive Effects in Iris Recognition." Proc. of the IEEE Computer Society's Conference on Computer Vision and Pattern Recognition (CVPR) Bio-metrics Workshop, June 2007.

K. Tobin, P. Bingham, **J. Price**. "Optical spatial heterodyned interferometry for inspection of microelectro-mechanical systems," Proceedings of the 8th International Conference on Quality Control by Artificial Vision, SPIE vol. 6356, 2007.

V. Paquit, **J. Price**, R. Seulin, F. Meriaudeau, K. Tobin, R. Ferrell. "Combining near-infrared illuminants to opti-mize venous imaging." Proceedings of Visualization and Image-guided Procedures Conference (SPIE Medical Imaging Symposium), SPIE vol. 6509, 2007.

J. Price, D. Aykac, J. Wall. "Improvements in Level Set Segmentation of 3D Small Animal Imagery." Proceed-ings of Image Processing (SPIE Medical Imaging Symposium,) SPIE vol. 6512, 2007.

J. Price, D. Aykac, J. Hunn, A. Kercher. "Automatic Characterization of Cross-sectional Coated Particle Nuclear Fuel using Greedy Coupled Bayesian Snakes." Proceedings of Machine Vision Applications in Industrial Inspec-tion XV, (SPIE Electronic Imaging West Symposium), SPIE vol. 6503, 2007.

J. Price, D. Aykac, J. Wall. "A 3D level sets method for segmenting the mouse spleen and follicles in volumetric microCT images." Proceedings of the 2006 IEEE Engineering in Medicine and Biology Conference (EMBC), pp. 2332-2336, 2006.

V. Paquit, **J. Price**, R. Seulin, F. Meriadeau, K. Tobin. "Near-infrared imaging and structured light ranging for automatic catheter insertion," Proceedings of Visualization, Image-Guided Procedures, and Display Conference (SPIE Medical Imaging Symposium), SPIE vol. 6141, pp. 61411T-1-9, 2006. Selected as "Best Poster" of ses-sion and "Cum Laude" poster for entire symposium.

J. Price, D. Aykac, J. Hunn, A. Kercher, R. Morris. "New Developments in Image-based Characterization of Coated Particle Nuclear Fuel," Proceedings of Machine Vision Applications in Industrial Inspection XIV, SPIE vol. 6070, pp. 153-162, 2006.

K. Tobin, B. Badhuri, E. Bright, A. Cheriyadat, T. Karnowski, T. Potok, **J. Price**. "Large-scale Geospatial Indexing for Image-based Retrieval and Analysis," Proceedings of the International Symposium on Visual Computing (ISVC), pp. 543-552, December 2005.

D. Aykac, **J. Price**, J. Wall. "3D Segmentation of the Mouse Spleen in microCT via Active Contours," Proceed-ings of the IEEE Nuclear Science Symposium and Medical Imaging Conference, vol. 3, pp. 1542-1545, 2005. Selected as "Premium Poster" (top 20 of 330).

A. Kercher, J. Hunn, **J. Price**, G. Jellison, F. Montgomery, R. Morris. "Advanced Characterization Methods for TRISO Fuels," Proceedings of the Advanced Reactors with Innovative Fuels Workshop (ARWIF-2005), Feb-ruary 2005.

J. Hunn, G.E. Jellison, **J. Price**. "New characterization techniques for coated particle fuel," presented at the American Nuclear Society Winter Meeting, November 2004.

J. Price, J. Hunn. "Optical Inspection of Coated Particle Nuclear Fuel," Proceedings of Machine Vision Ap-plications in Industrial Inspection XII, SPIE vol. 5303, pp. 137-149, January 2004.

J. Price, P. Bingham, K. Tobin, T. Karnowski. "Semiconductor Sidewall Shape Estimation using Top-down CD-SEM Image Retrieval," Proceedings of the 6th International Conference on Quality Control by Artificial Vision, SPIE vol. 5132, pp. 209-219, April 2003.

J. Price, K. Hylton, K.Tobin, P. Bingham, J. Hunn, J. Haines "Detection of Cavitation Pits on Steel Surfaces us-ing SEM Imagery," Proceedings of the 6th International Conference on Quality Control by Artificial Vision, SPIE vol. 5132, pp. 476-484, April 2003.

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J. Price, P. Bingham, K. Tobin, T. Karnowski. "Estimating Cross-section Semiconductor Structure by Comparing Top-down SEM Images," Proceedings of Machine Vision Applications in Industrial Inspection XI, SPIE vol. 5011, pp. 161-170, January 2003.

T. Gee, T. Karnowski, K. Tobin, **J. Price**. "Novel Software Architecture for Surveillance Video Processing," presented at the American Academy of Forensic Sciences Annual Meeting, February 2002.

J. Price, T. Gee. "Towards Robust Face Recognition from Video," Proceedings of the 30th Applied Imagery and Pattern Recognition Workshop, pp. 94-100, October 2001.

K. Tobin, P. Bingham, **J. Price**, M. Bennett. "An Application of Image Retrieval Technology to Sidewall Structure Estimation from Top-down SEM Imagery," presented at SCANNING 2001 (invited paper).

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J. Shin, J. Paik, **J. Price**, M. Abidi, "Adaptive regularized image interpolation using data fusion and steerable constraints," Proc. SPIE Visual Comm., Image Proc., Vol. 4310, pp. 798-809, 2001.

Y. Zhang, **J. Price**, M. Abidi. "Superquadrics-based Object Representation of Complex Scenes from Range Images," Proceedings of Three-Dimensional Image Capture and Applications III, SPIE vol. 4298, pp. 56-67, January 2001.

Y. Sun, J. Paik, **J. Price**, M. Abidi. "Dense Range Image Smoothing using Adaptive Regularization," Proceedings of the 7th IEEE International Conference on Image Processing (ICIP2000), vol. 2, pp. 744-747, September 2000.

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J. Price, M. Hayes III. "Sensor Optimal Image Interpolation," Proceedings of the Thirty-Second Asilomar Conference on Signals, Systems, and Computers, vol. 2, pp. 1262-1266, October 1999.

J. Price, M. Hayes III. "Steerable Filter Cascades," Proceedings of the 6th IEEE International Conference on Image Processing (ICIP'99), vol. 2, pp. 880-884, October 1999.

J. Price, M. Hayes III. "Fractal interpolation of images and volumes," Proceedings of the Thirty-Second Asilomar Conference on Signals, Systems, and Computers, vol. 2, pp. 1698-1702, November 1998.

J. Price, M. Hayes III. "Optimal Prefiltering for Improved Image Interpolation," Proceedings of the Thirty-Second Asilomar Conference on Signals, Systems, and Computers, vol. 2, pp. 959-963, November 1998.

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W. Malkes, W. Overstreet, **J. Price**, M. Tourville. "System and Method of Adaptive Traffic Management at an Intersection," U.S. Patent 11,250,699, February 2022.

W. Malkes, W. Overstreet, **J. Price**, M. Tourville. "Broadcasting Details of Objects at an Intersection," U.S. Patent 11,210,936, December 2021.

W. Malkes, W. Overstreet, **J. Price**, M. Tourville. "Optimizing Emergency Services Logistics Using Data from a Smart Traffic Control System," U.S. Patent 11,164,128, November 2021.

T. Gee, **J. Price**. "Optimizing the Content of a Digital Omnidirectional Image," U.S. Patent 11,153,482, October 2021.

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W. Malkes, W. Overstreet, **J. Price**, M. Tourville. "System and Method of Navigating Vehicles," U.S. Patent 10,803,740, October 2020.

W. Malkes, W. Overstreet, **J. Price**, M. Tourville. "Correcting Location Data of Connected Vehicle," U.S. Patent 10,775,473, September 2020.

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W. Malkes, W. Overstreet, **J. Price**, M. Tourville. "Adaptive Traffic Control Using Object Tracking and Identity Details," U.S. Patent 10,636,298, April 2020.

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B. Nichols, W.P. Garland, **J. Price**. "Core Wheel Processing System and Method," U.S. Patent 9,475,652, October 2016.

J. Price, T. Gee. "A System and Method for Stabilization of Fisheye Video Imagery," U.S. Patent 8,417,062, April 2013.

J. Price. "Content-based Fused Off-axis Illumination Direct-to-Digital Holography," U.S. Patent 7,038,787, May 2006.

J. Price, P. Bingham. "Fused Off-axis Illumination Direct-to-Digital Holography with a Plurality of Illumination Sources," U.S. Patent 6,963,406, November 2005.

C. Thomas, **J. Price**, G. Hanson, E. Voelkl. "Off-axis Illumination Direct-to-Digital Holography," U.S. Patent 6,747,771, June 2004.

J. Price. "Method for Removing Artifacts in an Electronic Image Decoded from a Block-transform Coded Representation of an Image." U.S. Patent 6,427,031, July 2002.