



Anthony Gatti

Instructor, Radiology

Bio

ACADEMIC APPOINTMENTS

- Instructor, Radiology
- Member, Wu Tsai Human Performance Alliance

PATENTS

- Anthony Gatti. "United States Patent 11080857 Systems and methods for segmenting an image", NeuralSeg Ltd., Aug 3, 2021

LINKS

- Personal Website: <https://www.anthonygattiphd.com>

Publications

PUBLICATIONS

- **Measures of resting cartilage structure and composition in runners with and without knee osteoarthritis.** *Osteoarthritis and cartilage open*
Hunt, M. A., Khan, M. C., Krowchuk, N. M., Gatti, A. A., Rauscher, A., Esculier, J. F.
2026; 8 (2): 100797
- **BMI and Varus Malalignment Compound to Define a High-Risk Phenotype for Compartment-Specific Knee Osteoarthritis Progression.** *medRxiv : the preprint server for health sciences*
White, M. S., Kogan, F., Delp, S. L., Chu, C. R., Sherman, S. L., S, A. P., Gold, G. E., Chaudhari, A. S., Gatti, A. A.
2026
- **3D Patellar instability Anatomical Severity Score (3D-PASS): A Novel Machine Learning Score Using 3D Bone Position From MRI to Predict Outcomes of Patellar Instability Treatment (Using a Subset of Data in the JUPITER Cohort).** *Orthopaedic journal of sports medicine*
Sinopoli, M. L., Gatti, A. A., Wright, C. E., Bartsch, A., Veerkamp, M. W., Boutin, R. D., Mintz, D. N., Emery, K. H., Shea, K. G., Chaudhari, A. S., JUPITER Study Group, Wall, E. J., Elangovan, S., et al
2025; 13 (12): 23259671251362675
- **Osteoarthritis year in review 2025: Imaging.** *Osteoarthritis and cartilage*
Harkey, M. S., Gatti, A. A., Jansen, M. P., White, M. S., Tolzman, J., Parmar, A., Frederick, I., Link, T. M., Hart, H. F.
2025
- **Rapid and robust quantitative cartilage assessment for the clinical setting: deep learning-enhanced accelerated T2 mapping.** *Skeletal radiology*
Carretero-Gómez, L., Wiesinger, F., Fung, M., Nunes, B., Pedoia, V., Majumdar, S., Desai, A. D., Gatti, A., Chaudhari, A., Sánchez-Lacalle, E., Malpica, N., Padrón, M.
2025
- **Exercise-Induced Changes in Knee Cartilage In Vivo: Comparing MRI Sequences.** *Journal of orthopaedic research : official publication of the Orthopaedic Research Society*

Ivanochko, N. K., Gatti, A. A., Wiebenga, E. G., Noseworthy, M. D., Kogan, F., Maly, M. R.
2025

- **PATIENT-SPECIFIC CARTILAGE PRESSURES ARE RELATED TO OSTEOARTHRITIS PROGRESSION AND DISEASE SEVERITY**
Gatti, A. A., Marusich, K. R., Ong, C., Chu, C. R., Esrafilian, A., Delp, S., Gold, G. E., Kogan, F., Chaudhari, A.
ELSEVIER SCI LTD.2025
- **Ultrasound-Based Statistical Shape Modeling for Quantifying Femoral Trochlear Bone Shape Post-ACLR.** *Osteoarthritis imaging*
Parmar, A., Gatti, A. A., Fajardo, R., Harkey, M. S.
2025; 5 (1)
- **An Automated and Robust Tool for Musculoskeletal and Finite Element Modeling of the Knee Joint** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
Esrafilian, A., Chandra, S. S., Gatti, A. A., Nissi, M. J., Mustonen, A., Saisanen, L., Reijonen, J., Nieminen, P., Julkunen, P., Toyras, J., Saxby, D. J., Lloyd, D. G., Korhonen, et al
2025; 72 (1): 56-69
- **OpenCapBench: A Benchmark to Bridge Pose Estimation and Biomechanics**
Gozlan, Y., Falisse, A., Uhrlich, S., Gatti, A., Black, M., Hicks, J., Delp, S., Chaudhari, A., IEEE COMPUTER SOC
IEEE COMPUTER SOC.2025: 4056-4065
- **T2 Clusters Are More Sensitive Than Mean T2 Change to Detect Early and Longitudinal Changes in Anterior Cruciate Ligament Reconstructed and Healthy Knees.** *Journal of magnetic resonance imaging : JMIR*
Pai S, A., Gatti, A. A., Black, M. S., Young, K. A., Desai, A. D., Barbieri, M., Asay, J. L., Sherman, S. L., Gold, G. E., Kogan, F., Hargreaves, B. A., Chaudhari, A. S.
2024
- **Improving Accuracy and Reproducibility of Cartilage T2 Mapping in the OAI Dataset Through Extended Phase Graph Modeling.** *Journal of magnetic resonance imaging : JMIR*
Barbieri, M., Gatti, A. A., Kogan, F.
2024
- **ShapeMed-Knee: A Dataset and Neural Shape Model Benchmark for Modeling 3D Femurs.** *IEEE transactions on medical imaging*
Gatti, A. A., Blankemeier, L., Veen, D. V., Hargreaves, B., Delp, S. L., Gold, G. E., Kogan, F., Chaudhari, A. S.
2024; PP
- **Quantification Of 3D Knee Morphology In Patients With Patellar Instability**
Lee, M. R., Gatti, A. A., Wright, C. E., Bartsch, A., Veerkamp, M. W., Parikh, S. N., Chaudhari, A. S., Shea, K. G., Sherman, S. L., Delp, S. L.
LIPPINCOTT WILLIAMS & WILKINS.2024: 61-62
- **Clinical utility of artificial intelligence-augmented endobronchial ultrasound elastography in lymph node staging for lung cancer.** *JTCVS techniques*
Patel, Y. S., Gatti, A. A., Farrokhhyar, F., Xie, F., Hanna, W. C.
2024; 27: 158-166
- **Bicycle Set-Up Dimensions and Cycling Kinematics: A Consensus Statement Using Delphi Methodology.** *Sports medicine (Auckland, N.Z.)*
Priego-Quesada, J. I., Arkesteijn, M., Bertucci, W., Bini, R. R., Carpes, F. P., Diefenthaler, F., Dorel, S., Fonda, B., Gatti, A. A., Holliday, W., Janssen, I., Elvira, J. L., Millour, et al
2024
- **Artificial Intelligence Algorithm Can Predict Lymph Node Malignancy from Endobronchial Ultrasound Transbronchial Needle Aspiration Images for Non-Small Cell Lung Cancer.** *Respiration; international review of thoracic diseases*
Patel, Y. S., Gatti, A. A., Farrokhhyar, F., Xie, F., Hanna, W. C.
2024: 1-11
- **Metabolic bone imaging and its relationship with biomechanics.** *Osteoarthritis imaging*
Goyal, A., Watkins, L., Bruce, O., Gatti, A., Kogan, F.
2024; 4 (3): 100242
- **Checklist for Artificial Intelligence in Medical Imaging (CLAIM): 2024 Update.** *Radiology. Artificial intelligence*
Tejani, A. S., Klontzas, M. E., Gatti, A. A., Mongan, J. T., Moy, L., Park, S. H., Kahn, C. E.

2024: e240300

- **Interactions of cumulative load with biomarkers of cartilage turnover predict knee cartilage change over 2 years: data from the osteoarthritis initiative.** *Clinical rheumatology*
Ivanochko, N. K., Gatti, A. A., Stratford, P. W., Maly, M. R.
2024
- **ShapeMed-Knee: A Dataset and Neural Shape Model Benchmark for Modeling 3D Femurs.** *medRxiv : the preprint server for health sciences*
Gatti, A. A., Blankemeier, L., Van Veen, D., Hargreaves, B., Delp, S. L., Gold, G. E., Kogan, F., Chaudhari, A. S.
2024
- **CLUSTERING ANALYSIS OF [18F]SODIUM FLUORIDE PET-MRI ACUTE METABOLIC BONE RESPONSE TO STAIR CLIMBING IN KNEE, FEMORAL NECK AND LUMBAR SPINE**
Barbieri, M., Goyal, A., Gatti, A. A., Pedersen, R., Haddock, B., Kogan, F.
ELSEVIER SCI LTD.2024: S360
- **3D CLUSTERING OF T2 MAPS IDENTIFIES FOCAL CARTILAGE CHANGES FROM 3-WEEKS TO 2-YEARS FOLLOWING ACL RECONSTRUCTION**
Pai, A. S., Gatti, A. A., Black, M., Young, K., Asay, J., Kogan, F., Sherman, S., Gold, G. E., Hargreaves, B., Chaudhari, A.
ELSEVIER SCI LTD.2024: S360-S361
- **CARTILAGE CHANGES POST-MENISCECTOMY ARE ASSOCIATED WITH 2-YEAR POST-OPERATIVE GAIT**
Asay, J. L., Gatti, A. A., Giori, N., Andriacchi, T. P., Gold, G. E.
ELSEVIER SCI LTD.2024: S156
- **FEMORAL TROCHLEA BONE SHAPE POST-ACL RECONSTRUCTION: ANALYSIS USING ULTRASONOGRAPHY AND STATISTICAL SHAPE MODELING**
Parmar, A. S., Gatti, A. A., Fajardo, R., Harkey, M. S.
ELSEVIER SCI LTD.2024: S273
- **Effect of functional knee loading on articular cartilage MRI T2 relaxation time and thickness in patients at risk for knee osteoarthritis.** *Osteoarthritis imaging*
Atkinson, H. F., Birmingham, T. B., Primeau, C. A., Gatti, A. A., Moyer, R. F., Milner, J. S., Holdsworth, D. W., Giffin, J. R.
2024; 4 (1): 100173
- **Investigating the relationship between quantitative-based ultrasound and MRI estimations of rotator cuff fatty infiltration.** *Journal of clinical ultrasound : JCU*
Mahna, A., Boulanger, S. M., Gatti, A. A., Alenabi, T., Ku, A., Hynes, L. M., Chopp-Hurley, J. N.
2024
- **Investigating the reliability and validity of subacromial space measurements using ultrasound and MRI.** *Journal of orthopaedic surgery and research*
Boulanger, S. M., Mahna, A., Alenabi, T., Gatti, A. A., Culig, O., Hynes, L. M., Chopp-Hurley, J. N.
2023; 18 (1): 986
- **Muscle-driven simulations and experimental data of cycling.** *Scientific reports*
Clancy, C. E., Gatti, A. A., Ong, C. F., Maly, M. R., Delp, S. L.
2023; 13 (1): 21534
- **Updating the Checklist for Artificial Intelligence in Medical Imaging (CLAIM) for reporting AI research** *NATURE MACHINE INTELLIGENCE*
Tejani, A. S., Klontzas, M. E., Gatti, A. A., Mongan, J., Moy, L., Park, S., Kahn Jr, C. E.
2023
- **Investigating the relationship between physical activity and self-reported outcomes in adults with rotator cuff related shoulder pain.** *Physiotherapy theory and practice*
Adeyinka, B. O., Gatti, A. A., Chopp-Hurley, J. N.
2023: 1-9
- **AI Reporting Guidelines: How to Select the Best One for Your Research** *RADIOLOGY-ARTIFICIAL INTELLIGENCE*
Klontzas, M. E., Gatti, A. A., Tejani, A. S., Kahn, C. E.
2023; 5 (3)

- **AI Reporting Guidelines: How to Select the Best One for Your Research.** *Radiology. Artificial intelligence*
Klontzas, M. E., Gatti, A. A., Tejani, A. S., Kahn, C. E.
2023; 5 (3): e230055
- **A scoping review of portable sensing for out-of-lab anterior cruciate ligament injury prevention and rehabilitation.** *NPJ digital medicine*
Tan, T., Gatti, A. A., Fan, B., Shea, K. G., Sherman, S. L., Uhlrich, S. D., Hicks, J. L., Delp, S. L., Shull, P. B., Chaudhari, A. S.
2023; 6 (1): 46
- **Muscle Architecture and Subcutaneous Fat Measurements of Rectus Femoris and Vastus Lateralis at Optimal Length Aided by a Novel Ultrasound Transducer Attachment** *Physiotherapy Canada*
Bulbrook, B. D., Chopp-Hurley, J. N., Wiebenga, E. G., Pritchard, J. M., Gatti, A. A., Keir, P. J., Maly, M. R.
2023; 25 (1): 74-82
- **Imaging of joint response to exercise with MRI and PET.** *Skeletal radiology*
Watkins, L. E., Goyal, A., Gatti, A. A., Kogan, F.
2023
- **Investigating acute changes in osteoarthritic cartilage by integrating biomechanics and statistical shape models of bone: data from the osteoarthritis initiative.** *Magma (New York, N.Y.)*
Gatti, A. A., Keir, P. J., Noseworthy, M. D., Maly, M. R.
2022
- **PyCPD: Pure NumPy Implementation of the Coherent Point Drift Algorithm** *Journal of Open Source Software*
Gatti, A. A., Khallaghi, S.
2022; 7 (80)
- **Thoracic imaging radiomics for staging lung cancer: a systematic review and radiomic quality assessment** *CLINICAL AND TRANSLATIONAL IMAGING*
Churchill, I. F., Sullivan, K. A., Simone, A. C., Patel, Y. S., Leontiadis, G. I., Farrokhyar, F., Gatti, A. A., Hanna, W. C.
2021
- **An Artificial Intelligence Algorithm to Predict Nodal Metastasis in Lung Cancer.** *The Annals of thoracic surgery*
Churchill, I. F., Gatti, A. A., Hylton, D. A., Sullivan, K. A., Patel, Y. S., Leontiadis, G. I., Farrokhyar, F., Hanna, W. C.
2021
- **Association of Machine Learning-Based Predictions of Medial Knee Contact Force With Cartilage Loss Over 2.5 Years in Knee Osteoarthritis** *ARTHRITIS & RHEUMATOLOGY*
Brisson, N. M., Gatti, A. A., Damm, P., Duda, G. N., Maly, M. R.
2021; 73 (9): 1638-1645
- **Daily cumulative load and body mass index alter knee cartilage response to running in women** *GAIT & POSTURE*
Wilson, E., Gatti, A. A., Keir, P. J., Maly, M. R.
2021; 88: 192-197
- **Automatic knee cartilage and bone segmentation using multi-stage convolutional neural networks: data from the osteoarthritis initiative** *MAGNETIC RESONANCE MATERIALS IN PHYSICS BIOLOGY AND MEDICINE*
Gatti, A. A., Maly, M. R.
2021
- **Equations to Prescribe Bicycle Saddle Height based on Desired Joint Kinematics and Bicycle Geometry** *EUROPEAN JOURNAL OF SPORT SCIENCE*
Gatti, A. A., Keir, P. J., Noseworthy, M. D., Beauchamp, M. K., Maly, M. R.
2021: 1-10
- **A new technique to evaluate the impact of running on knee cartilage deformation by region** *MAGNETIC RESONANCE MATERIALS IN PHYSICS BIOLOGY AND MEDICINE*
Brenneman Wilson, E. C., Gatti, A. A., Maly, M. R.
2021; 34 (4): 593-603
- **Hip and ankle kinematics are the most important predictors of knee joint loading during bicycling** *JOURNAL OF SCIENCE AND MEDICINE IN SPORT*

- Gatti, A. A., Keir, P. J., Noseworthy, M. D., Beauchamp, M. K., Maly, M. R.
2021; 24 (1): 98-104
- **How to Optimize Measurement Protocols: An Example of Assessing Measurement Reliability Using Generalizability Theory** *PHYSIOTHERAPY CANADA*
Gatti, A. A., Stratford, P. W., Brisson, N. M., Maly, M. R.
2020; 72 (2): 112-121
 - **Association of Pain and Steps Per Day in Persons With Mild-to-Moderate, Symptomatic Knee Osteoarthritis: A Mixed-Effects Models Analysis of Multiple Measurements Over Three Years** *ARTHRITIS CARE & RESEARCH*
Brisson, N. M., Gatti, A. A., Maly, M. R.
2020; 72 (1): 114-121
 - **Accuracy of estimates of cumulative load during a confined activity: bicycling.** *International biomechanics*
Gatti, A. A., Maly, M. R.
2019; 6 (1): 66-74
 - **Cartilage recovery in runners with and without knee osteoarthritis: A pilot study** *KNEE*
Esculier, J., Jarrett, M., Krowchuk, N. M., Rauscher, A., Wiggermann, V., Taunton, J. E., Wilson, D. R., Gatti, A. A., Hunt, M. A.
2019; 26 (5): 1049-1057
 - **Investigating the Test-Retest Reliability and Validity of Hand-Held Dynamometry for Measuring Knee Strength in Older Women with Knee Osteoarthritis** *PHYSIOTHERAPY CANADA*
Chopp-Hurley, J. N., Wiebenga, E. G., Gatti, A. A., Maly, M. R.
2019; 71 (3): 231-238
 - **Self-efficacy, pain, and quadriceps capacity at baseline predict changes in mobility performance over 2 years in women with knee osteoarthritis** *CLINICAL RHEUMATOLOGY*
Brisson, N. M., Gatti, A. A., Stratford, P. W., Maly, M. R.
2018; 37 (2): 495-504
 - **Acute changes in knee cartilage transverse relaxation time after running and bicycling** *JOURNAL OF BIOMECHANICS*
Gatti, A. A., Noseworthy, M. D., Stratford, P. W., Brenneman, E. C., Totterman, S., Tamez-Pena, J., Maly, M. R.
2017; 53: 171-177
 - **GT3X+accelerometer placement affects the reliability of step-counts measured during running and pedal-revolution counts measured during bicycling** *JOURNAL OF SPORTS SCIENCES*
Gatti, A. A., Stratford, P. W., Brenneman, E. C., Maly, M. R.
2016; 34 (12): 1168-1175