YUN CAI

MS

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BIOMECHANICS

EDUCATION

WAYNE STATE UNIVERSITY

MS Biomedical Engineering **2013**

ST. PETERSBURG STATE POLYTECHNICAL UNIVERSITY

BS Biomedical Engineering **2009**

AFFILIATIONS

SAE International

PROFESSIONAL PROFILE

Ms. Yun Cai has over 10 years of industrial experience in frontal occupant safety development engineering and CAE modeling. Ms. Cai obtains good understanding in both passive safety and active safety fields. Ms. Cai's area of practice involves automotive safety system performance analysis, failure mode analysis, occupant injury analysis, restraint system design/evaluation, test metholody development and simulation methodology development.

Ms. Yun Cai holds a M.S. in Biomedical Engineering from Wayne State University and a B.S. in Medical Physics and Bioengineering from Peter the Great St. Petersburg Polytechnic University, Russia.

AREAS OF EXPERTISE

Frontal Occupant Safety Development Engineering
Occupant Protection / Restraints
Occupant Injury Analysis
Occupant Safety Regulations / Protocols
CAE modeling: MADYMO & LS-DYNA

CAI

MS

Experience

Explico

2023 - Present *Senior Scientist*

Ford Motor Company

Core Safety Department

2019 - 2023 *Safety Attribute Engineer*

Siemens PLM

2018 - 2019 *Presales Technical Support Engineer for Prescan*

Ford Car Safety Department On-Site (Siemens PLM)

2013 - 2018 *Occupant Safety Engineer*

TASS International (Siemens PLM)

2013 *Project Engineer*

Wayne State University

2011 - 2013 *Research Assistant*

Awards and Honors

Ford Team Recognition Award, 2018

Ford Team Recognition Award, 2017

Patents

Deng Z., Abramczyk J., Patel D., Cai Y., Li Z. *Deployable Center Console for Far Side Protection.* Patent App. No. 16/036,341. Granted.

Deng Z., Patel D., Cai Y., Abramczyk, J. *Center Airbag w/ Horizontal Panels for Far Side Occupant Protection.* Patent No. US 10,752,198 B2. Granted.

Deng Z., Patel D., Aekbote K., Cai Y. *Side Air Curtain w/ Inclined Neck Support Chamber.* Patent No. US 10,899,306 B2. Granted.

Deng Z., Aekbote K., Abramczyk, J., Patel D., Cai Y. *Deployable Sail Panel in Seat for Far Side Occupant Protection. Patent No. US 10,807,551 B2. Granted.*

CAI

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PUBLICATIONS

Haojie Mao, Yun Cai and King H. Yang, *Numerical study of 10-year-old child forearm injury*, Advances in Biomechanics and Applications, Vol. 1, No. 3 (2014) 143-158.

Yun Cai, Haojie Mao and King H. Yang, *Development of a pediatric forearm finite element model for characterizing mechanical responses of backward fall*, ASME 2013 Summer Bioengineering Conference.

Haojie Mao, Ming Shen, Liqiang Dong, Binhui Jiang, Chintan Shelat, Yun Cai, King H. Yang, Development of a 10-year-old finite element whole body model for studying pediatric injury biomechanics, Protection of Children in Cars, 10th International Conference. 2012, Germany.

Liqiang Dong, Feng Zhu, Xin Jin, Mahi Suresh, Binhui Jiang, Gopinath Sevagan, Yun Cai, Guangyao Li, King H. Yang, Blast effect on the lower extremities and its mitigation: A computational study, Journal of the mechanical behavior of biomedical material 28 (2013) 111-124.

PROFESSIONAL DEVELOPMENT

TASS International (now Siemens PLM)

MADYMO Introductory Training — 2013

MADYMO Advanced Training — 2014

Prescan Introductory Training — 2017

LSTC (now ANSYS)

LSDYNA Training — 2015, 2019

Ford Motor Company

Restraint System Training 101 — 2015

CAE Modeling Training 101 — 2015

Sensor 101 — 2015

Quality Training — 2022