TECHNOLOGY (Emerging Topics Community)

(Vote for up to six candidates)

Jacob Battenberg

Tianchi (Paul) Zhang

Matt Heaphy

Ka Chun (Alfred) Ma

David Schraub

Tat Ming (Gordon) Tse

Jacob Battenberg ASA, CERA
Manager, Actuarial Practice
Oliver Wyman
Portland, OR

Professional Background
Jacob Battenberg is a Manager with the Actuarial Practice of Oliver Wyman and is based in Seattle. He is originally from Wisconsin and graduated from the University of Wisconsin-Madison, double majoring in Actuarial Science and Finance. He specializes in driving digital transformation initiatives within the insurance industry, leveraging his expertise in actuarial, data, and cloud technology to optimize business processes and enhance value for insurers.

Jacob's work involves a blend of optimizing existing business processes and creating new processes to add value to business users. A typical project involves approaching a problem from many angles – requiring knowledge of best practices across database management, data pipelines, data governance, code development, and user experience. Throughout his work, Jacob has worked extensively with both Azure and AWS cloud services, as well as used coding languages such as Python, R, SQL, SAS, and VBA.

Recent implementations include:
- Built cloud-based pre and post-model data transformations needed for LDTI using python and PaaS tools from the Azure environment (Databricks, Azure SQL Server) to optimize data processing and improve efficiency.
- Assisted in establishing and planning an actuarial data management system, including LDTI data procurement, model input and output automation, and the design of a centralized data platform.

Outside of project-based work, Jacob has been actively involved in exploring emerging technologies such as blockchain and cloud-based data architecture. He has spoken at multiple SOA conferences on these topics, sharing insights and best practices with industry professionals (see "SOA Experience").

Society of Actuaries Experience (Section and committee memberships and participation)
Speaking engagements at SOA conferences include:
- Blockchain and Current & Future Adoption in the Insurance Space – SOA Impact Conference, 2022
- Cloud-Based Data Architecture – Introduction and Best Practices – SOA Life Meeting, 2023

Other Relevant Volunteer Experience
None

Why are you interested in leading this section?
I am running for the Technology section of the Emerging Topics community because I am passionate about driving integration of cutting-edge technology into the actuarial industry. As advancements in AI, machine learning, and cloud technologies continue to accelerate, it is crucial for actuaries to proactively embrace these technologies.

Furthermore, I am eager to contribute to the development of educational materials that will empower actuaries to confidently navigate the implementation of these technologies. Drawing from my firsthand experience in various actuarial transformation projects, I have encountered and successfully overcome common roadblocks associated with integrating new technologies into actuarial teams that may not have prior experience.

In an era where data-driven professions such as actuaries are adopting advanced technologies at a faster pace, it is crucial that actuaries do not get left behind. As an advocate for increased technological adoption in the actuarial profession, I will strive to ensure that actuaries adopt these technologies sooner, empowering them to stay at the forefront of innovation.

By actively promoting the adoption of advanced technologies and providing educational support and resources, we can ensure that actuaries are equipped with the necessary tools to thrive in a rapidly evolving industry.

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Tianchi (Paul) Zhang FSA, MAAA
Manager
Deloitte Consulting
Philadelphia, PA

Professional Background

Paul Zhang is a manager at Deloitte Consulting with nine years of industry experience. He specializes in actuarial modeling (e.g., model validation, model development, and model conversion), the application of innovative technology to actuarial processes, and financial reporting for standards like Statutory PBR, LDTI, and IFRS17. His industry experience includes developing end-to-end reporting systems for new standards, enhancing existing client processes with Python script automation, and devising solutions for new-deal reinsurance reporting. Additionally, Paul has led actuarial audits, helping to audit GAAP and Statutory financial statements for Annuity clients.

Prior to joining Deloitte, Paul dedicated 8 years to Transamerica, where he led PBR development, navigated a universal life AXIS model conversion, and managed a team to develop an IFRS17 centralized reporting tool.

Society of Actuaries Experience (Section and committee memberships and participation)

Paul is a member of the following SOA sections: Financial Reporting, Investment, Emerging Topics, International, Product Development, Reinsurance. He is also an author for the Financial Reporting newsletter and has presented on Financial Reporting section webcasts

Other Relevant Volunteer Experience

- Local Actuarial Club Presenter
- SOA Ask An Actuary Volunteer
- Impact Day (Deloitte Organized)
- Federal and State Income Tax Volunteer

Why are you interested in leading this section?

"Will we be replaced by AI in the future?" This is a question that crosses the mind of every actuary as ChatGPT enters the scene. In my view, the answer is no; we won't be supplanted by cutting-edge technology. Rather, these advancements will enable us to assume a more pivotal role in the financial sector.

Reflecting on the past, there are numerous examples demonstrating how technology has transformed our work methods and boosted our capabilities: cloud networking has facilitated remote work from diverse locations. Grid computing has augmented our computational power, enabling us to handle more complex projections. Furthermore, machine learning has introduced us to predictive analytics, enhancing our ability to accurately predict policyholder behavior.

However, these advanced technologies also present challenges, requiring us to acquire new skills. We need to understand these innovations and determine the best ways to integrate them into our practices.

As a technology enthusiast, I have been closely monitoring these developments and am eager to be at the forefront of exploring these technologies. I aim to bring them into the spotlight and initiate discussions on how we can best utilize them.

Rather than worrying about job security, we should welcome these new technologies. What will the future of actuarial work look like? Let's discover it together!

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Matt Heaphy, FSA, MAAA
Head of Pricing & Risk Analytics
Martello Re
Charlotte, NC

Professional Background
Matt Heaphy is the Head of Pricing & Risk Analytics at Martello Re, a Bermuda-based asset-intensive reinsurer. His areas of expertise include data science, experience studies, annuity pricing and product development, modeling, hedging, and reinsurance. Matt is an enthusiastic proponent of open source software and has developed two free, readily-available packages geared towards the actuarial community. These include actxps, an actuarial experience study toolkit available for R and Python, and offsetreg, an extension of the R "tidymodels" ecosystem to support predictive models with offset terms.

Prior to joining Martello Re in 2023, Matt held roles at Oliver Wyman and Nassau Financial Group. Matt holds a Bachelor of Science degree in Actuarial Science from the University of Connecticut, is a Fellow of the Society of Actuaries, and a Member of the American Academy of Actuaries. Matt hails from Connecticut and in his free time can often be found running, biking, or exploring the woods.

Society of Actuaries Experience (Section and committee memberships and participation)
- Co-Author, "Thinking About Transformation? Time to Choose a Path", *Actuary of the Future*, May 2024)
- Co-Author, "RILA GLWB Designs and Market Risk Analysis", *Product Matters!*, June 2023
- Presenter, "Working Magic with Open 'Sourcery'", 2023 SOA Life Meeting
- Member, Emerging Topics Community (and previously Predictive Analytics & Futurism)

Other Relevant Volunteer Experience
Frequent presenter at the Actuaries' Club Hartford and Springfield. Most recently, "Risky Business: Model Testing and Development" (May 2024)

Why are you interested in leading this section?
Technology skills have always been an essential component of the value we bring as actuaries. In recent years we've seen countless technological advancements from the rise of predictive analytics to big data to large language AI models. The pace of change often feels difficult to keep up with, and the actuarial profession has a vested interest in staying ahead to ensure our ongoing relevancy. Having spent several years working on the cusp of the actuarial and data science worlds, I believe my experience can help guide our profession on how to use modern technology more effectively. In my day-to-day work, I always strive to make learning new technology as approachable, practical, and fun as possible, and I'd like to bring that skill set to the Emerging Topics Community.

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Ka Chun (Alfred) Ma, ASA
CASH Algo Finance Group
Hong Kong, SAR

David Schraub, FSA, MAAA, CERA, AQ
David Schraub Actuarial Consultancy
Northbrook, IL

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Tat Ming (Gordon) Tse, FSA, CERA
AIA International Limited Taiwan Branch
Taipei, Taiwan

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