NAME: Jyotirmoy Deshmukh

POSITION TITLE & INSTITUTION: Assistant Professor, University of Southern California

**A. PROFESSIONAL PREPARATION**
**(see PAPPG Chapter II.C.2.f.(i)(a))**

| INSTITUTION | LOCATION | MAJOR/AREA OF STUDY | DEGREE (if applicable) | YEAR (YYYY) |
|---|---|---|---|---|
| Veermata Jijabai Technical Institute | University of Mumbai, India | Electronics | B. Eng. | 2000 |
| The University of Texas | Austin, TX | Elec. & Comp. Eng. | Ph.D. | 2010 |
| University of Pennsylvania | Philadelphia, PA | Comp. and Inf. Sci. | Postdoc. Fellow | 2010 - 2012 |

**B. APPOINTMENTS**
**(see PAPPG Chapter II.C.2.f.(i)(b))**

| From - To | Position Title, Organization and Location |
|---|---|
| 2017 – current | Assistant Professor, Department of Computer Science, Viterbi School of Engineering, University of Southern California, Los Angeles, CA. |
| 2012 – 2017 | Principal Engineer, Toyota Motors North America R&D, Gardena, CA |
| 2010 – 2012 | Postdoctoral Research Fellow, University of Pennsylvania, Philadelphia, PA |
| 2002 – 2006 | Graduate Research Assistant, University of Texas at Austin, Austin, TX |

## C. PRODUCTS

**(see PAPPG Chapter II.C.2.f.(i)(c))**

**Products Most Closely Related to the Proposed Project**

1) Selma Saidi, Dirk Ziegenbein, Jyotirmoy V. Deshmukh, Rolf Ernst: Autonomous Systems Design: Charting a New Discipline. IEEE Des. Test 39(1): 8-23 (2022)
2) Anand Balakrishnan, Jyotirmoy Deshmukh, Bardh Hoxha, Tomoya Yamaguchi, Georgios Fainekos: PerceMon: Online Monitoring for Perception Systems. RV 2021: 297-308
3) Xin Qin, Jyotirmoy V. Deshmukh: Clairvoyant Monitoring for Signal Temporal Logic. FORMATS 2020: 178-195
4) Tomoya Yamaguchi, Bardh Hoxha, Danil V. Prokhorov, Jyotirmoy V. Deshmukh: Specification-guided Software Fault Localization for Autonomous Mobile Systems. MEMOCODE 2020: 1-12
5) Anand Balakrishnan, Aniruddh Gopinath Puranic, Xin Qin, Adel Dokhanchi, Jyotirmoy V. Deshmukh, Heni Ben Amor, Georgios Fainekos: Specifying and Evaluating Quality Metrics for Vision-based Perception Systems. DATE 2019: 1433-1438
6) Xin Qin, Nikos Aréchiga, Andrew Best, Jyotirmoy V. Deshmukh: Automatic Testing and Falsification with Dynamically Constrained Reinforcement Learning. CoRR abs/1910.13645 (2019)

**Other Significant Products, Whether or Not Related to the Proposed Project**

1. X. Jin, J. V. Deshmukh, A. Donzé, S.A. Seshia, Mining Requirements from Closed-loop Control Models, IEEE Trans. on Computer-Aided Design of Integrated Circuits and Systems, Special Section on Automotive Embedded Systems and Software, 2015. Recipient of the 2017 Donald O. Pederson Award.
2. A. Balkan, P. Tabuada, J. V. Deshmukh, X. Jin, J. Kapinski: Underminer: A Framework for Automatically Identifying Nonconverging Behaviors in Black-Box System Models. ACM Trans. Embedded Comput. Syst. 17(1): 20:1-20:28, 2018. Recipient of the EMSOFT 2016 Best Paper Award.
3. D. Nickovic, X. Qin, T. Ferrère, C. Mateis, J. V. Deshmukh, Shape Expressions for Specifying and Extracting Signal Features, Int. Conf. on Runtime Verification, 2019. Recipient of the RV 2019 Best Paper Award.
4. Jyotirmoy V. Deshmukh, Xiaoqing Jin, Rupak Majumdar, Vinayak S. Prabhu: Parameter optimization in control software using statistical fault localization techniques. ICCPS 2018: 220-231
5. Adel Dokhanchi, Heni Ben Amor, Jyotirmoy V. Deshmukh, Georgios Fainekos:

## D. SYNERGISTIC ACTIVITIES

**(see PAPPG Chapter II.C.2.f.(i)(d))**

Academic service: (i) PC Co-Chair, NASA Formal Methods, 2022, (ii) PC Co-Chair, Runtime Verification Conference, 2020. (iii) PC Co-Chair, ACM/IEEE Conf. on Hybrid Systems: Computation and Control, 2018. (iv) Steering Committee Member, Workshop on Monitoring and Testing Cyber-Physical Systems.

Co-Director, Center for Autonomy and AI, University of Southern California.

Director, Cyber-Physical Systems, Verification, Intelligence, Design and Analysis (CPS-VIDA) lab, USC.

Participant of IEEE Technical Committee Working Group on Verification of Autonomous Systems.