Pranjal Vachaspati

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PROFESSIONAL EXPERIENCE

Jane Street Capital June 2023-Present
Software Engineer New York, NY

- Developed tools to manage and deploy infrastructure for trading systems
- Reviewed and edited technical writing to improve documentation and communication firmwide

Toast Oct 2021 - May 2023
Senior Software Engineer - API Platforms Boston, MA

- Designed infrastructure to serve the needs of a rapidly growing fintech company using a Kotlin-based microservices architecture
- Developed API standards and tools to help developers write compliant APIs
- Served on company-wide documentation committee; developed and taught internal technical writing courses

Google Sept 2019 - Sept 2021
Software Engineer - Search Platforms Cambridge, MA

- Developed encapsulation techniques to maintain the stability of a large, rapidly evolving, legacy Java/C++ hybrid codebase with thousands of developers serving billions of users
- Designed infrastructure for migrating large monolithic web-scale applications to distributed microservice architectures

University of Illinois at Urbana-Champaign Fall 2014-Sept 2019
Research Assistant for Professor Tandy Warnow Urbana, IL

- Designed and evaluated phylogenetic species tree estimation methods

Freelance & Internships

- Additional work experience with blockchain, embedded development, data science, high performance computing, etc.

EDUCATION

University of Illinois Aug 2014 - Sept 2019
PhD in Computer Science Urbana, IL
Developed fast, scalable, and accurate phylogenetic species tree estimation methods used for numerous biological analyses. Coursework focused on high-performance computing and algorithms.

MIT Graduated June 2014
B.S. in Physics; coursework in Computer Science Cambridge, MA

ADDITIONAL EXPERIENCE

Champaign County Board Aug 2018-Nov 2019
Elected board member Champaign County, IL

- Member of 22-member elected board with over 200,000 constituents and $130 million budget

***Jeopardy!* Champion** 2016-2017
Culver City, CA

- Six-time champion and Tournament of Champions semi-finalist, with winnings of over $140,000

SKILLS

Languages: Java, Kotlin, C++, C, Python, Rust, SQL, Javascript, CSS, HTML, Go, Mathematica, MATLAB, Haskell, Lex, Yacc, LaTeX, English, Hindi
Tools: Terraform, Bazel, Gradle, Pandas, Jupyter, Git, Hg, Linux/Bash, Emacs

See reverse for publications and awards

PUBLICATIONS

10. P. Vachaspati and T. Warnow. "SVDquest: Improving SVDquartets species tree estimation using exact optimization within a constrained search space". Molecular Phylogenetics and Evolution, 2018.
9. P. Vachaspati and T. Warnow. "Enhancing Searches for Optimal Trees Using SIESTA". RECOMB International Workshop on Comparative Genomics, 2017
8. S. Christensen, E. Molloy, P. Vachaspati, and T. Warnow. "Optimal Completion of Incomplete Gene Trees in Polynomial Time". 17th International Workshop on Algorithms for Bioinformatics (WABI) 2017.
7. B.M. Boyd, J.M. Allen, N.P. Nguyen, P. Vachaspati, Z.S. Quicksall, T. Warnow, L. Mugisha, K.P. Johnson, and D.L. Reed. "Primates, Lice, and Bacteria: Speciation and Genome Evoluition in the Symbionts of Hominid Lice". Molecular Biology and Evolution, 2017.
6. J.M. Allen, B. Boyd, N.P. Nguyen, P. Vachaspati, T. Warnow, D.I. Huang, P.G. Grady, K.C. Bell, Q.C. Cronk, L. Mugisha, and B.R. Pittendrigh. "Phylogenomics from Whole Genome Sequences Using aTRAM". Systematic biology, 2017. Vancouver
5. P. Vachaspati and T. Warnow. "FastRFS: Fast and accurate Robinson-Foulds Supertrees using constrained exact optimization", RECOMB-Comparative Genomics and Bioinformatics, 2016.
4. P. Vachaspati and T. Warnow. "ASTRID: Accurate Species TRees from Internode Distances", RECOMB-Comparative Genomics and BMC Genomics, 2015.
3. R. Davidson, P. Vachaspati, S. Mirarab, and T. Warnow. "Phylogenomic species tree estimation in the presence of incomplete lineage sorting and horizontal gene transfer", RECOMB-Comparative Genomics, and BMC Genomics, 2015.
2. P. Vachaspati, W. Detmold (2014). "Fast Evaluation of Multi-Hadron Correlation Functions". LATTICE 2014.
1. S. Li, P. Vachaspati, D. Sheng, N. Dural, M. V. Romalis. "Very large optical rotation generated by Rb vapor in a multi-pass cell". Phys. Rev. A 84, 061403(R) (2011)

AWARDS AND RECOGNITION

Graduate Research Fellow 2016-2021
National Science Foundation Urbana, IL
Ira and Debra Cohen Fellow 2015-2016
UIUC College of Engineering Urbana, IL
Saburo Muroga Fellow 2015-2016
UIUC College of Engineering Urbana, IL
Roy J. Carver Fellow 2014-2015
UIUC College of Engineering Urbana, IL

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