ANUJ PRATAP SINGH YADAV

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Summary

Staff Engineer with 10 years of software development experience, currently specializing in Electronic Design Automation at Synopsys. Expertise in formal verification methodologies and C++ development for datapath validation tools serving semiconductor leaders including Nvidia, Intel, and Apple. Brings valuable cross-industry perspective from Microsoft and Adobe, applying performance optimization and scalability techniques to EDA challenges. Successfully developing verification capabilities that improve efficiency while providing critical design validation.

Skills

- **Languages**: C++ | C | Java | C# | Objective C/C++ | JavaScript | TypeScript | Bash | TCL | jQuery | Node | Python
- **Domain**: Formal Verification | Distributed Systems | Backend/Frontend Development | Datapath Validation | Microservices
- **Tools & Frameworks**: VC-Formal | EDAG | DPV | Git | Perforce | CI/CD | GitHub Copilot | Curser

Experience

R&D, Staff Engineer — Synopsys — *Noida, INDIA* — **05/2023 - Present**

- **DPV: Formal Data Path Verification**
  - Developing enhanced formal verification capabilities for datapath validation, supporting chip design for major clients including Nvidia (GPU architectures), Intel (CPU designs), Apple (custom silicon), and ByteDance (ML accelerators).
  - Designed and implemented comprehensive code coverage analysis for C++ designs, enabling semiconductor clients to identify verification gaps and improve formal coverage for critical designs.
  - Designed & developed token-based licensing system in DPV enabling shared token usage across formal apps, improving license utilization across apps.
  - Designed and implemented persistent design state serialization, enabling save/restore capabilities that reduced verification setup time by 40% and improved workflow continuity across design iterations.

Software Engineer II — Microsoft — *Noida, INDIA* — **05/2021 – 05/2023**

- **OneDrive Catalog Sku Filtering**
  - Addressed high-severity incidents from unsupported SKUs impacting OneDrive upsell.
  - Implemented catalog filtering and whitelisting to allow only supported SKUs.
  - Improved service reliability prevented sales impact, and reduced fix timelines.
- **Stream 2.0 Video insertion & playback in office docs**
  - Enabled insertion and playback of Stream 2.0 videos from SharePoint/OneDrive in Office documents.
  - Built and integrated Excel video playback module with seamless multi-service interaction. Enhanced video experience, boosting collaboration for M365 enterprise users.
- **PowerPoint Recording Studio Enhancements**
  - Enhanced Recording Studio with video export, background blur, and customizable Cameo for seamless slide-video integration.
  - Boosted recording sessions MAU from 1.5M to 4.2M, with 1.2M using Cameo for improved video creation.
- **Automation Explainer Videos in PowerPoint**
  - Led the automation crew for v1 release of Explainer Videos using Recording Studio in PowerPoint Win32 App.
  - Enabled test driven development for features and contributed to keeping features in healthy state.
- Enriched system metrics by integrating the features with telemetry; facilitated in-depth logging for Explainer Videos Recording and Export events.

Member Of Technical Staff 2 — Adobe — *Noida, INDIA* — **08/2015 -**

- **Support Mathematical Expressions & Equations in AEM Docx Web Editor**
  - Added MathML library support for customers to create math expressions & equations and insert in the document as a SVG Image.
  - Enables and attracts customers working on Math Documents to use Web Editor.
- **Supporting user-based profiles to update AEM Docx Web Editor UI**
  - Designed and implemented the APIs to provide customers the functionality to upload user-based profile configs and honoring their preferences in Web Editor.
  - Enabled customers to configure the Editor UI according to their organization needs and requirements.
- **Improving performance for very large files where customer reported Freezing/Slowness in Web Editor**
  - Designed and implemented the lazy loading for files in Web Editor, which resulted in 60% reduction in overall loading time.

- **ColorPop in Photoshop Element**
  - Edit a picture by illuminating the important Object by keeping it colored and making all other objects black and white.
  - Designed and implemented the feature using Photoshop Engine by masking out the object to be highlighted and created Auto Creation running in background to recognize the images suitable for applying ColorPop on basis of configuration and push notification to user after successful creation.
- **Migrated Elements from RIBS to Hyperdrive**
  - Redesigned the CI/CD pipelines create new executables having Hyperdrive environment. Created independent bundles for parallelization.
  - Elements Product Installation time on system significantly reduced by 50% on average.

Education

B.Tech (Computer Science) GPA (8.27/10)	**Maulana Azad National Institute of Technology (NIT Bhopal)**	*Bhopal, MP, INDIA*	**06/2011 - 05/2015**
12th (CBSE) Percentage (78%)	**Kendriya Vidyalaya Shivpuri**	*Shivpuri, MP, INDIA*	**04/2009 - 05/2010**
10th (CBSE) Percentage (85.6%)	**Kendriya Vidyalaya JRC Bareilly**	*Bareilly, MP, INDIA*	**04/2007 - 05/2008**

Achievements and Awards

- **Spot Award:** Received for Outstanding work in Elements Team for Migrating to hyperdrive.
- **Ranked 1st in Knight Coders in TechnoSearch (2012)**
- **Ranked 3rd in Code Pokers Held in TechnoSearch (2012)**
- **Maximum Rated 1974 on Codechef (Handle: newcoderr)**
- **Maximum Rated 1693 on Codeforces (Handle: newcoderr)**

Hobbies and Interest

- Competitive programming, Cricket, Football, Chess