Bangalore, India
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# Kracekumar

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## Work Experience

| **Staff Software Engineer** | **Airbase** | **Sep 2021 - Present** |
|---|---|---|
| **Senior Software Engineer** | **Airbase** | **Oct 2020 - Sep 2021** |
| Reimbursement, Accounting teams | Remote | |

- Built a flexible and extensible business rule engine to evaluate employee reimbursement. The company admins can configure rules based on budgets, time limits, user-specific rules, and other pre-defined fields.
- Integrated reliable near real-time OCR from an external vendor for reimbursement receipt workflow in web, mobile, and external webhook. Have to make a trade-off on performance vs accuracy of the OCR fields. Onboarded all stakeholders to deliver the best experience - in terms of API usability, efficiency, latency, reliability, extensibility, and resilience.
- Improved reliability, throughput, reduced failure rates on various task queue jobs. Reduced conversion failures on thumbnail generation for documents and images from 15% to 3% by incorporating fallback strategies.
- Used metrics and data-driven approach for decision making.  Incorporated metrics like queue-waiting time for critical tasks to ensure  SLA of internal tasks and increased confidence of the quick turnaround time.
- Helped other engineers in the company with code reviews, gradual typing in Python, and database migrations.
- Reduced various endpoint API calls latency by 2X - 5X factor by understanding and removing Python/Django Rest Framework and SQL bottlenecks.
- Helped several engineers with design and code reviews on regular basis.

| **Senior Software Engineer** | **Minds.ai** | **April 2017 - Sep 2020** |
|---|---|---|
| Internal tools and Consulting | Bangalore, India | |

- Built various data transformation pipelines, data analysis on the training data.
- Architected and implemented extensible code for reinforcement training platform using a plugin architecture. Pluggy library was the foundation for building a platform to choose algorithms from a list of implementations.
- Designed and built a data pipeline to extract and transform 100 TB of data in a distributed system using SLURM Job Scheduler.
- Improved the performance of data loading in a TensorFlow-based neural network by 6x times by moving SQL to LMDB. As the data increased, the architecture scaled linearly.
- Successfully drove company-wide adoption of Python Type hints to all the projects.
- Built a visualization tool to explore anomalies on three-dimensional data using Plotly dash.
- Possess a working of Neural Networks.

| **Tech Lead** | **7C Studio** | **May 2015 - Sep 2016** |
|---|---|---|
| Backend and DevOps | Bangalore, India | |

- Migrated Ruby on Rails code API Stack to Python. Designed and built a python-based backend for a real-time mobile messaging application using web sockets, and HTTP APIs. Automated the entire infrastructure set up using Salt Stack.

| **Software Engineer II** | **RecruiterBox** | **Jan 2014 - April 2015** |
|---|---|---|
| | Bangalore, India | |

- Responsible for delivering the features with well-designed interfaces, and integrating external APIs with unit tests, and integration tests.

| **Software Engineer II** | **HasGeek** | **July 2012 - December 2013** |
|---|---|---|
| | Bangalore, India | |

- HasGeek builds discussion spaces in and around technology. I worked on building backend tools, web applications to help run HasGeek events and conferences.

| **Software Engineer I** | **IBM** | **July 2011 - June 2012** |
|---|---|---|
| | Bangalore, India | |

- Migrated the .NET applications running in physical machines to cloud based virtual systems.

## Education and Certifications

- **B.Tech Information Technology,** Amrita University, Bangalore.                     **2007–2011**
- **Recurse Center Self-directed Learning,** New York                     **Sep 2016 - Dec 2016**

## Technologies and Languages

- Languages:        Python, JavaScript, Julia, Rust, SQL
- Technologies:    Postgres, AWS, Git, Redis, Django, RabbitMQ
- Other:              Data structures and algorithms, Flask, SQLAlchemy, Pandas, Django Rest Framework

## Projects

- **Jut -**  The command-line tool to view the IPython/Jupyter notebook in the terminal. Source Code in GitHub.
- **Python Typing Koans -** Python typing koans to learn type-hints in Python3 using Mypy. Source Code in GitHub**.**
- **Junction -** The junction is a Django-based conference proposal management system. It helps conference organizers to streamline the proposal management, and reviewers to provide feedback to the proposers. I was one of the contributors, maintainers, and code reviewers for the projects in the past. Source Code in GitHub
- **FaceTouch -**  A neural network to predict face touch on a live feed and warn you with the voice, "don't touch the face.". Based on Yolo architecture. Source Code in GitHub
- **Technical blogging** on kracekumar.com. Popular articles include Building Pluggable Application using Pluggy and Type Check Your Django App.
- **Tech Talks** - Delivered technical talks in various conferences like PyGotham, PyCon India, Euro Python.

    Recent Talks: Python Typing Koans - PyGotham 2021, Type Check You Django App: Euro Python 2021,  Build Plugins with Pluggy - PyCon India 2020

## Other Sections

- **BangPypers** - Volunteered in running Bangalore Python User Group meetups from 2011 - 2016. Been part of organizing close to 80 events of size 50 to 100 attendants.
- **PyCon India** - Volunteered for PyCon India from 2012 - 2016 in various capacities during the day of the conference and planned and executed the conference n various roles and was also part of the organizing team.

## Interests

- Interested in building developer tools, quality software, and FOSS software.